

Exhibit

B

1
 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 5,892,900

| 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 | 467 | 468 | 469 | 470 | 471 | 472 | 473 | 474 | 475 | 476 | 477 | 478 | 479 | 480 | 481 | 482 | 483 | 484 | 485 | 486 | 487 | 488 | 489 | 490 | 491 | 492 | 493 | 494 | 495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509 | 510 | 511 | 512 | 513 | 514 | 515 | 516 | 517 | 518 | 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000 | 1001 | 1002 | 1003 | 1004 | 1005 | 1006 | 1007 | 1008 | 1009 | 1010 | 1011 | 1012 | 1013 | 1014 | 1015 | 1016 | 1017 | 1018 | 1019 | 1020 | 1021 | 1022 | 1023 | 1024 | 1025 | 1026 | 1027 | 1028 | 1029 | 1030 | 1031 | 1032 | 1033 | 1034 | 1035 | 1036 | 1037 | 1038 | 1039 | 1040 | 1041 | 1042 | 1043 | 1044 | 1045 | 1046 | 1047 | 1048 | 1049 | 1050 | 1051 | 1052 | 1053 | 1054 | 1055 | 1056 | 1057 | 1058 | 1059 | 1060 | 1061 | 1062 | 1063 | 1064 | 1065 | 1066 | 1067 | 1068 | 1069 | 1070 | 1071 | 1072 | 1073 | 1074 | 1075 | 1076 | 1077 | 1078 | 1079 | 1080 | 1081 | 1082 | 1083 | 1084 | 1085 | 1086 | 1087 | 1088 | 1089 | 1090 | 1091 | 1092 | 1093 | 1094 | 1095 | 1096 | 1097 | 1098 | 1099 | 1100 | 1101 | 1102 | 1103 | 1104 | 1105 | 1106 | 1107 | 1108 | 1109 | 1110 | 1111 | 1112 | 1113 | 1114 | 1115 | 1116 | 1117 | 1118 | 1119 | 1120 | 1121 | 1122 | 1123 | 1124 | 1125 | 1126 | 1127 | 1128 | 1129 | 1130 | 1131 | 1132 | 1133 | 1134 | 1135 | 1136 | 1137 | 1138 | 1139 | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 | 1148 | 1149 | 1150 | 1151 | 1152 | 1153 | 1154 | 1155 | 1156 | 1157 | 1158 | 1159 | 1160 | 1161 | 1162 | 1163 | 1164 | 1165 | 1166 | 1167 | 1168 | 1169 | 1170 | 1171 | 1172 | 1173 | 1174 | 1175 | 1176 | 1177 | 1178 | 1179 | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 | 1186 | 1187 | 1188 | 1189 | 1190 | 1191 | 1192 | 1193 | 1194 | 1195 | 1196 | 1197 | 1198 | 1199 | 1200 | 1201 | 1202 | 1203 | 1204 | 1205 | 1206 | 1207 | 1208 | 1209 | 1210 | 1211 | 1212 | 1213 | 1214 | 1215 | 1216 | 1217 | 1218 | 1219 | 1220 | 1221 | 1222 | 1223 | 1224 | 1225 | 1226 | 1227 | 1228 | 1229 | 1230 | 1231 | 1232 | 1233 | 1234 | 1235 | 1236 | 1237 | 1238 | 1239 | 1240 | 1241 | 1242 | 1243 | 1244 | 1245 | 1246 | 1247 | 1248 | 1249 | 1250 | 1251 | 1252 | 1253 | 1254 | 1255 | 1256 | 1257 | 1258 | 1259 | 1260 | 1261 | 1262 | 1263 | 1264 | 1265 | 1266 | 1267 | 1268 | 1269 | 1270 | 1271 | 1272 | 1273 | 1274 | 1275 | 1276 | 1277 | 1278 | 1279 | 1280 | 1281 | 1282 | 1283 | 1284 | 1285 | 1286 | 1287 | 1288 | 1289 | 1290 | 1291 | 1292 | 1293 | 1294 | 1295 | 1296 | 1297 | 1298 | 1299 | 1300 | 1301 | 1302 | 1303 | 1304 | 1305 | 1306 | 1307 | 1308 | 1309 | 1310 | 1311 | 1312 | 1313 | 1314 | 1315 | 1316 | 1317 | 1318 | 1319 | 1320 | 1321 | 1322 | 1323 | 1324 | 1325 | 1326 | 1327 | 1328 | 1329 | 1330 | 1331 | 1332 | 1333 | 1334 | 1335 | 1336 | 1337 | 1338 | 1339 | 1340 | 1341 | 1342 | 1343 | 1344 | 1345 | 1346 | 1347 | 1348 | 1349 | 1350 | 1351 | 1352 | 1353 | 1354 | 1355 | 1356 | 1357 | 1358 | 1359 | 1360 | 1361 | 1362 | 1363 | 1364 | 1365 | 1366 | 1367 | 1368 | 1369 | 1370 | 1371 | 1372 | 1373 | 1374 | 1375 | 1376 |
<th
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,892,900

5	156.	Product Infringing: Any product using Microsoft Product Activation or Reader Activation feature.
6	A virtual distribution environment comprising	
7	(a) a first host processing environment comprising	computer running a Microsoft product containing the Product Activation feature, including Windows XP, Office XP, Visio 2002 and Reader
8	(1) a central processing unit;	CPU of computer
9	(2) main memory operatively connected to said central processing unit;	main memory of computer
10	(3) mass storage operatively connected to said central processing unit and said main memory;	hard disk or other mass storage contained in computer
11	(b) said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Microsoft Product Activation software
12	(1) machine check programming which derives information from one or more aspects of said host processing environment.	Product Activation software generates hardware information relating to the host processing environment as part of the activation process
13	(2) one or more storage locations storing said information;	hardware information is stored in the computer's storage
14	(3) integrity programming which	
15	(i) causes said machine check programming to derive said information,	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware
16	(ii) compares said information to information previously stored in said one or more storage locations, and	each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware
17	(iii) generates an indication based on the result of said comparison; and	Product Activation software indicates whether the test has passed or failed
18	(4) programming which takes one or more actions based on the state of said indication;	
19	(i) said one or more actions including at least temporarily disabling certain functions.	Product Activation may disable the underlying software from generating new files or running user applications if the test fails

1
2 INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
34 INTERTRUST INFRINGEMENT CHART
5 FOR U.S. PATENT NO. 5,892,900
6

7	157.	8 Product Infringing: Any product using 9 Microsoft Product Activation or Reader 10 Activation feature.
11	A virtual distribution environment comprising 12 (a) a first host processing environment 13 comprising 14 (1) a central processing unit; 15 (2) main memory operatively connected 16 to said central processing unit; 17 (3) mass storage operatively connected 18 to said central processing unit and said 19 main memory;	computer running a Microsoft product 20 containing the Product Activation feature, 21 including Windows XP, Office XP, Visio 2002 22 and Reader
23	(b) said mass storage storing tamper resistant 24 software designed to be loaded into said 25 main memory and executed by said central 26 processing unit, said tamper resistant software comprising: 27 (1) machine check programming which 28 derives information from one or more aspects of said host processing environment, (2) one or more storage locations storing said information; (3) integrity programming which (i) causes said machine check programming to derive said information, (ii) compares said information to information previously stored in said one or more storage locations, and (iii) generates an indication based on the result of said comparison; and (4) programming which takes one or more actions based on the state of said indication; (i) said one or more actions including displaying a message to the user.	CPU of computer main memory of computer hard disk or other mass storage contained in computer Microsoft Product Activation software Product Activation software generates hash information relating to the host processing environment as part of the activation process hardware information is stored in the computer's storage each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware each time the Microsoft program starts up after initial activation, Product Activation checks the originally derived hardware information against current hardware Product Activation software indicates whether the test has passed or failed Product Activation software displays a message to the user if the test fails

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,892,900

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
156.	Products infringing: Windows Media Player
A virtual distribution environment comprising a first host processing environment comprising	WMP with Individualized DRM client (referred to hereafter as the Individualized WMP) running on a client computer
a central processing unit	Client CPU
main memory operatively connected to said central processing unit	Client memory
mass storage operatively connected to said central processing unit and said main memory	Local disk drive
said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Individualized WMP (I-WMP) stored on disk and loaded into main memory upon execution. I-WMP is tamper resistant.
machine check programming which derives information from one or more aspects of said host processing environment,	Individualization module is generated by the MS individualization service either when the un-individualized WMP tries to open licensed content that requires a security upgrade (aka, Individualization) or when the user requests an upgrade un-provoked. The individualization module is unique and signed and is bound to a unique hardware ID using the MS machine activation process.
one or more storage locations storing said information	The aforementioned unique feature are located in multiple places or storage locations
integrity programming which causes said machine check programming to derive said information,	The ID is regenerated by WMP/DRM client when first loading the Individualized DRM Client to access a piece of content requiring the security upgrade.
compares said information to information previously stored in said one or more storage locations, and	The program checks the new copy against the one to which the Individualized DRM client is bound.
generates an indication based on the result of said comparison; and	Program stores the result of this check.
programming which takes one or more actions based on the state of said indication	If these are not equal, the user is notified via a message stating that he/she must acquire a security upgrade (that is, the current security upgrade is invalid). If they are equal then processing of songs requiring Individualization continues.
said one or more actions including at least temporarily disabling certain functions.	Songs targeted to this Individualization module cannot be accessed until the upgrade is correct.

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,892,900

5	157. A virtual distribution environment comprising	Infringing products include: Windows Media Player
6	a first host processing environment comprising a central processing unit	See 156
7	main memory operatively connected to said central processing unit	See 156
8	mass storage operatively connected to said central processing unit and said main memory	See 156
9	said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	See 156
10	machine check programming which derives information from one or more aspects of said host processing environment,	See 156
11	one or more storage locations storing said information	See 156
12	integrity programming which causes said machine check programming to derive said information compares said information to information previously stored in said one or more storage locations, and	See 156
13	generates an indication based on the result of said comparison; and	See 156
14	programming which takes one or more actions based on the state of said indication	See 156
15	16 said one or more actions including displaying a message to the user.	If these are not equal, the user is notified via a message stating that he/she must acquire a security upgrade (that is, the current security upgrade is invalid).
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3
4

INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,892,900

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
157.	Infringing Product: Microsoft's Windows File Protection and System File Checker features, embodied in Microsoft's Windows 2000, Windows XP products, and Server 2003
A virtual distribution environment comprising	
(a) a first host processing environment comprising	computer running Microsoft Windows 2000 or Windows XP.
(1) a central processing unit;	CPU of computer
(2) main memory operatively connected to said central processing unit;	main memory of computer
(3) mass storage operatively connected to said central processing unit and said main memory;	hard disk or other mass storage contained in computer
(b) said mass storage storing tamper resistant software designed to be loaded into said main memory and executed by said central processing unit, said tamper resistant software comprising:	Windows File Protection process/service ("WFP") and System File Checker (SFC.exe) features of winlogon.exe. Winlogon.exe is treated as a "critical" service by the Windows operating system. Files supporting WFP (including winlogon.exe, sfc.exe, sfc.dll (2000 only), sfcfiles.dll (2000 only) and sfc_os.dll (XP only)) are "protected" files and are signed using a signature verified by a hidden key. In Windows 2000, WFP uses hidden functions within the sfc.dll library. Functions are imported by "ordinal" instead of "name."
(1) machine check programming which derives information from one or more aspects of said host processing environment,	Winlogon either directly or using another dll (XP) or using SFC.dll (2000) determines if changed file was protected, computes the hash of protected files and, if necessary, computes the hash of the file in the dll cache before using it to replace a file overwritten by an incorrect version of the file.
(2) one or more storage locations storing said information;	hardware information is stored in the computer's memory
(3) integrity programming which	
(i) causes said machine check programming to derive said information,	Windows notifies Winlogon when there has been a system directory change or a change in the dll cache.
(ii) compares said information to information previously stored in said one or more storage locations, and	Winlogon either directly or using another dll (XP) or using SFC.dll (2000) compares computed hash with hash in the hash database created from the Catalog file(s), and, if there is a difference, compares the hash of the file in the dll cache to the hash database created from

1		the Catalog file(s) before using it to replace an overwritten file.
2	(iii) generates an indication based on the result of said comparison; and	An event is written to the Event Viewer if hashes do not agree.
3	(4) programming which takes one or more actions based on the state of said indication;	Depending on the circumstances, WFP displays several messages to the user, including prompting the user to contact the system administrator, and to insert a CD-ROM.
4	(i) said one or more actions including displaying a message to the user.	See above. Messages also constitute viewable Event Property pop-ups.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,917,912

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
6. A process comprising the following steps:	Product Infringing: XBox
7 accessing a first record containing 8 information directly or indirectly 9 identifying one or more elements of a first 10 component assembly,	The process constitutes assembly and use 11 of components making up an XBox game. 12 The first record consists of the second file 13 table on an XBox DVD. This table 14 identifies the .xbe file which includes the 15 game information.
16 at least one of said elements including at 17 least some executable programming,	The .xbe file includes executable 18 programming.
19 at least one of said elements constituting a 20 load module, 21 said load module including executable 22 programming and a header;	The .xbe file is a load module. The .xbe file includes a header.
23 at least a portion of said header is a public 24 portion which is characterized by a 25 relatively lower level of security 26 protection; and	Most information in the .xbe header is not 27 obfuscated.
28 at least a portion of said header is a private 29 portion which is characterized, at least 30 some of the time, by a level of security 31 protection which is relatively higher than 32 said relatively lower level of security 33 protection,	The entry point address and the kernel 34 image thunk address listed in the .xbe 35 header are obfuscated and therefore at a 36 higher level of security protection.
37 using said information to identify and 38 locate said one or more elements;	The second file table identifies the .xbe 39 file, including where that file is located.
40 accessing said located one or more 41 elements;	The .xbe file is accessed by the XBox.
42 securely assembling said one or more 43 elements to form at least a portion of said 44 first component assembly;	At runtime, the .xbe file is assembled with 45 certain services of the operating system to 46 form a component assembly. Security 47 associated with this assembling process 48 includes verifying signatures associated 49 with portions of the .xbe file, and replacing 50 obfuscated calls to operating system 51 services with actual addresses. 52 The assembly may also include patch files 53 downloaded from a remote server.
54 executing at least some of said executable	Game play requires execution of the

1	programming; and	assembled programming.
2	checking said record for validity prior to performing said executing step.	The second file table is protected by a digital signature, and is not loaded/used unless the digital signature is verified against the file.
3		
4		
5	7. A process as in claim 6 in which:	
6	said relatively lower level of security protection comprises storing said public header portion in an unencrypted state; and	The header is protected by the techniques protecting the xbe such as signing and security descriptors, but it is not encrypted except as noted below.
7	said relatively higher level of security protection comprises storing said private header portion in an encrypted state.	The entry point address and the kernel image thunk address listed in the xbe header are obfuscated. The Xbox SDK's (XDK) image build uses a key value shared with the retail XBox to perform two XOR operations against the addresses
8		
9		
10		

11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,917,912

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
8.	Infringing products: Microsoft CLR or CCLR and .NET Framework SDK and products that include one or both of these.
A process comprising the following steps:	
(a) accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,	The first record is either an assembly manifest, or a whole assembly; the elements are other assemblies that are referenced as external in the first record; the first component assembly is a .NET application domain.
(1) at least one of said elements including at least some executable programming,	Assembly contains executable programming.
(2) at least one of said elements constituting a load module,	This is an external assembly referenced in the first record.
(i) said load module including executable programming and a header;	Assemblies include executable programming, and the assembly manifest and CLS type metadata constitute a header.
(ii) said header including an execution space identifier identifying at least one aspect of an execution space required for use and/or execution of the load module associated with said header;	This feature is provided for in the .NET architecture through numerous mechanisms, for example, by demands for ZoneID permissions.
(iii) said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security;	SecurityZone or other evidence provides this capability.
(b) using said information to identify and locate said one or more elements;	Manifest and type metadata information section is used to identify and locate files, code elements, resource elements, individual classes and methods.
(c) accessing said located one or more elements;	Step carried out by the CLR or CCLR loader.
(d) securely assembling said one or more elements to form at least a portion of said first component assembly;	CLR or CCLR carries out this step, including checking the integrity of the load module, checking the load module's permissions, placing the load module contents into an application domain, isolating it from malicious or badly behaved code, and from code that does not have the permission to call it.
(e) executing at least some of said executable programming; and	Step carried out by the CLR/CCLR and the CLR/CCLR host.

1	(f) checking said record for validity prior to performing said executing step.	The CLR/CCLR checks the authenticity and the integrity of the first .NET assembly.
2	9. A process as in claim 8 in which said execution space providing a higher level of security comprises a secure processing environment.	The CLR/CCLR constitutes a secure processing environment.
3	13. A process as in claim 8 further comprising:	
4	(a) comparing said execution space identifier against information identifying the execution space in which said executing step is to occur; and	In one example, the ZoneIdentityPermissionAttribute SecurityZone value demanded by control in the assembly manifest is compared against the SecurityZone attribute value corresponding to the calling method
5	(b) taking an action if said execution space identifier requires an execution space with a security level higher than that of the execution space in which said executing step is to occur.	CLR/CCLR will throw an exception and transfer control to an exception handler in the calling routine, or it will shut down the application if there is no such exception handler, if the permissions do not include the permissions required by the ZoneIdentityPermissionAttribute. The ZoneIdentityPermissions are hierarchical, unless customized.
6	14. A process as in claim 13 in which said action includes terminating said process prior to said executing step.	CLR/CCLR may terminate the process or transfer control to an exception handler that may itself terminate the process.
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,917,912

1 CLAIM LANGUAGE	2 CLAIM OF INFRINGEMENT
3 8.	4 Products infringing include Windows Installer 5 SDK, and products that include the Windows 6 Installer technology.
7 A process comprising the following steps:	8 Scenario 1: use of Windows Installer packages 9 (i.e. .MSI files) to create Windows Installer- 10 enabled applications, such as Office 2000 and 11 use of the WI service to install them. 12 Scenario 2: software distribution technologies 13 that use the Windows Installer OS service for 14 installation, such as Internet Component 15 Download and products like Office Web 16 Components. 17 Either scenario can be used by SMS, 18 IntelliMirror and third party tools like 19 InstallShield and WISE. 20 NT or later operating systems (because they 21 use the subsystem identifier) 22 using cabinet files, .CAB, (because they have a 23 manifest and INF and/or OSD files), and 24 have been signed with a digital signature and 25 will be authenticated by Authenticode or 26 WinVerifyTrust API and 27 contain at least one PE (portable executables)
28 (a) accessing a first record containing 29 information directly or indirectly identifying 30 one or more elements of a first component 31 assembly,	32 Scenario 1: First record is the .MSI file that 33 contains information on what goes in the 34 assembly and how to install the assembly. 35 Scenario 2: 36 A. First record is the cabinet manifest 37 (indirect instructions) 38 B. Or, First record can be INF and/or OSD 39 files (direct instructions)
40 (1) at least one of said elements 41 including at least some executable 42 programming,	43 Both scenarios: The PE (portable executable) 44 in the cabinet file is the executable 45 programming.
46 (2) at least one of said elements 47 constituting a load module,	48 Both scenarios: PE is a load module:
49 (i) said load module including 50 executable programming and a	51 Both scenarios: The PE has several headers.

1	header;	
2	(ii) said header including an execution space identifier identifying at least one aspect of an execution space required for use and/or execution of the load module associated with said header;	Both scenarios: SUBSYSTEM is a field in the PE Optional Header that is an execution space
3	(iii) said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security;	Both scenarios: SUBSYSTEM distinguishes between programs that can run in kernel mode and those that can run in user mode. This is a key security concept of process separation that was introduced with Windows NT. The Subsystem field in the PE header is used by the system to indicate whether the executable will run within Ring 3 (user mode) or use Ring 0 (native or kernel mode). Anything running in Ring 3 is limited to its own processing space. Executables running in Ring 0 can reach out to other spaces and have security measure built around them.
4	(b) using said information to identify and locate said one or more elements;	Scenario 1: the MSI file identifies and locates the elements Scenario 2: .CAB manifest is used to identify Physical location OSD and/or INF is used to identify Logical location
5	(c) accessing said located one or more elements;	Scenario 1: Using the MSI file Scenario 2: Using INF and/or OSD in cabinet file
6	(d) securely assembling said one or more elements to form at least a portion of said first component assembly;	Both scenarios: Using the Window Installer OS service with various properties and flags on the settings for higher protection. Windows Installer has numerous flags that the developer can set to indicate how the assembly will be installed, in what privilege level, with how much user interface, and how much ability the user has to watch or change what is occurring. These controls have been strengthened with each release of Windows Installer. Windows Installer 1.1 and later has the ability to limit the users capabilities during the installation. In a Windows 2000

1 environment and later, using the Group Policy-
2 based Change and Configuration Management,
3 the administrator has the most control

4
5 Fields that can be set by the developer or
6 administrator to control what users can do
7 include the following:

8 *TransformsSecure* can be set to a value of 1
9 to inform the installer that transforms are to be
10 cached locally on the user's computer in a
11 location the user does not have write access.
12 (Transforms create custom installations from a
13 basic generic installation, for example to make
14 the Finance versions different from the
15 Marketing version or English versions different
16 from Japanese versions.)

17 *AllowLockdownBrowse* and *DisableBrowse*
18 can prevent users from browsing to the
19 sources.

20 *SourceList* can be used to specify the only
21 allowable source to be used for the installation
22 of a given component.

23 *Environment* can be used to specify whether
24 the installation can be done while the user is
25 logged on or only when no user is logged on.

26 *Security Summary Property* conveys whether
27 a package can be opened as read-only or with
28 no restriction.

29 *Privileged Property* is used by developers of
30 installer packages to make the installation
31 conditional upon system policy, the user being
32 an administrator, or assignment by an
33 administrator.

34 *Restricted Public Properties* can be set as
35 variables for an installation. "For managed
36 installations, the package author may need to
37 limit which public properties are passed to the
38 server side and can be changed by a user that is
39 not a system administrator. Some are
40 commonly necessary to maintain a secure
41 environment when the installation requires the
42 installer use elevated privileges."

43 *SecureCustomProperties* can be created by the
44 author of an installation package to add
45 controls beyond the default list.

46 *MsiSetInternalUI* specifies the level of user
47 interface from none to full.

48 A *Sequence Table* can be used to specify the
49 required order of execution for the installation
50 process. There are three modes, one of which is
51 the *Administrative Installation* that is used by
52 the network administrator to assign and install
53 applications.

54 *InstallServicesAction* registers a service for
55 the system and it can only be used if the user is

	<p>an administrator or has elevated privileges with permission to install services or that the application is part of a managed installation.</p> <p><i>DisableMedia</i> system policy disables media sources and disables browsing to media sources. It can be used with <i>DisableBrowse</i> to secure installations version 1.1 that doesn't have some of the other capabilities.</p> <p><i>AlwaysInstallElevated</i> can be set per user or per machine and is used to install managed applications with elevated privileges.</p> <p><i>AllowLockdownBrowse</i>, <i>AllowLockdownMedia</i> and <i>AllowLockdownPatch</i> set these capabilities so they can only be performed by an administrator during an elevated installation.</p> <p>[See article "HowTo: Configure Windows Installer for Maximum Security (Q247528)."</p> <p>Windows XP Professional and .NET have the additional capability to set <i>Software Restriction Policies</i> and have these used by Windows Installer.</p> <p>In addition, most of the software distribution technologies that use Windows Installer also add a layer of their own controls. For example, SMS 2.0 enables the administrators to control the installation is optional or required and whether the user can affect the installation contents/features at all.</p>
<p>17</p> <p>(e) executing at least some of said executable programming; and</p>	<p>Both scenarios: Part of executable is called during installation in order to do self-registration or perform custom actions. The overall executable is used at runtime.</p>
<p>20</p> <p>(f) checking said record for validity prior to performing said executing step.</p>	<p>Scenario 1: Sign the overall package and the cabinet files.</p> <p>Scenario 2: The cabinet file is signed.</p> <p>For IE with the default security level or higher, the digital signature is verified by Authenticode or a similar utility before the component is allowed to be assembled.</p>

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,917,912

5 35.	6 Products infringing include all products that 7 host the Microsoft .NET Common Language 8 Runtime or Compact Common Language 9 Runtime.
10 A process comprising the following steps:	11
11 (a) at a first processing environment receiving 12 a first record from a second processing 13 environment remote from said first processing 14 environment:	15 Computer running the Microsoft CLR/CCLR 16 receives, for example, a shared assembly 17 header or a complete shared assembly from 18 another computer, for example a server.
19 (1) said first record being received in a 20 secure container;	21 The shared assembly is cryptographically 22 hashed and signed.
23 (2) said first record containing 24 identification information directly or 25 indirectly identifying one or more 26 elements of a first component 27 assembly;	28 The first record is either an assembly manifest, 29 or a whole assembly; the elements are other 30 assemblies that are referenced as external in 31 the first record; the first component assembly 32 is a .NET application domain.
33 (i) at least one of said elements 34 including at least some 35 executable programming;	36 Assembly contains executable programming.
37 (ii) said component assembly 38 allowing access to or use of 39 specified information;	40 The specified information can include any kind 41 of data file, stream, log, environment variables, 42 etc.
43 (3) said secure container also including 44 a first of said elements;	45 The shared assembly includes at least some 46 executable programming.
47 (b) accessing said first record	48 CLR/CCLR accesses the assembly or 49 assembly header.
50 (c) using said identification information to 51 identify and locate said one or more elements;	52 Manifest and type metadata information 53 section is used to identify and locate files, code 54 elements, resource elements, individual classes 55 and methods.
56 (1) said locating step including locating 57 a second of said elements at a third 58 processing environment located 59 remotely from said first processing 60 environment and said second 61 processing environment;	62 Met by a multifile assembly, with files 63 distributed across a network, or by the second 64 element constituting another referenced 65 assembly located elsewhere; the CLR/CCLR 66 uses probing to locate and access the file.
67 (d) accessing said located one or more 68 elements;	69 Step carried out by the CLR/CCLR loader.
70 (1) said element accessing step 71 including retrieving said second 72 element from said third processing 73 environment;	74 Step carried out by the CLR/CCLR loader.
75 (e) securely assembling said one or more 76 elements to form at least a portion of said first 77 component assembly specified by said first 78 record; and	79 CLR/CCLR carries out this step, including 80 checking the integrity of the load module, 81 checking the load module's permissions, 82 placing the load module contents into an 83 application domain, isolating it from malicious 84 or badly behaved code, and from code that

1	(f) executing at least some of said executable programming.	does not have the permission to call it. Step carried out by the CLR/CCLR.
2	(1) said executing step taking place at said first processing environment.	CLR/CCLR is operating in the first processing environment specified above.

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 **INTERTRUST INFRINGEMENT CHART**
4 **FOR U.S. PATENT NO. 5,920,861**

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>34.</p> <p>Product Infringing: Microsoft Operating Systems that support device driver signature technology</p> <p>A descriptive data structure embodied on a computer-readable medium or other logic device including the following elements:</p> <p>a representation of the format of data contained in a first rights management data structure</p> <p>The driver package's INF is a data structure. The INF contains multiple types of sections, structured as hierarchy /"branches," that the Windows operating system or its Plug and Play and/or Set-up installation services "branch" through based on the operating system information and device for which a driver is to be installed. The installation services use the "branching" structure (format) to determine what files should be installed. The INF, further provides disk location information and file directory path information for the files identified as necessary as a result of the "branching" process.</p> <p>The driver package is a "rights management" data structure based on the fact that it is governed and based on the fact that it processes governed information.</p> <p><u>Rights Management as Governed Item</u></p> <p>A driver manufacturer can include rules governing the driver's installation and/or use in the driver's INF file. For example:</p> <p>Security entries specify an access control list for the driver.</p> <p>Driver developers can specify rules that determine behavior of the driver package based on the user's operating system version, including product type and suite and the device for which the driver is to be installed</p> <p>Rules specifying logging</p> <p>Local administrators can establish policy as to what action or notification should occur in the event that a driver being installed is not signed.</p>
---	--

	<p>The operating system installation services have a ranking criteria it follows when multiple drivers are available for a newly detected device. The criterion is used to determine the driver best suited for ensuring compatibility with the operating system and ensuring functionality of the device.</p> <p>Drivers have been certified to be compatible with specified operating system versions for their respective device classes. The catalog file protects the integrity of the driver.</p> <p>Microsoft distributes the Driver Protection List to prevent known bad driver from being installed.</p> <p><u>Processing Rights Managed Items</u></p> <p>Certain drivers (SAP) have been explicitly certified to protect DRM content.</p> <p><u>MSDN – DRM Overview</u></p> <p>A DRM-compliant driver must prevent unauthorized copying while digital content is being played. In addition, the driver must disable all digital outputs that can transmit the content over a standard interface (such as S/PDIF) through which the decrypted content can be captured.</p>
<p>18</p> <p>said representation including:</p> <p>19 element information contained within</p> <p>20 said first rights management data</p> <p>21 structure; and</p>	<p>The elements of a driver package include:</p> <p>A driver that is typically a dynamic-link library with the .sys filename extension.</p> <p>An INF file containing information that the system Setup components use to install support for the device.</p> <p>A driver catalog file containing the digital signature.</p> <p>One or more optional co-installers which are a Win32® DLL that assists in device installation NT-based operating systems.</p> <p>Other files, such as a device installation application, a device icon, and so forth.</p> <p><u>XP DDK – INF Version Section</u></p> <p>The LayoutFile entry specifies one or more additional system-supplied INF files that contain layout information on the source media required for installing the software</p>

	<p>described in this INF. All system-supplied INF files specify this entry.</p>
	<p>The CatalogFile entry specifies a catalog (.cat) file to be included on the distribution media of a device/driver.</p>
<p>4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28</p>	<p>organization information regarding the organization of said elements within said first rights management data structure; and</p>
	<p>Within an INF is a hierarchy with the top being a list of manufacturers, and sub-lists of models and at the bottom a list of install information by model.</p>
	<p>For Windows XP and later versions of NT-based operating systems, entries in the Manufacturer section can be decorated to specify operating system versions. The specified versions indicate OS versions with which the specified INF <i>Models</i> sections will be used. If no versions are specified, Setup uses the specified <i>Models</i> section for all versions of all operating systems.</p>
	<p>INF's SourceDiskNames and SourceDiskFiles sections specify organization information.</p>
	<p><u>XP DDK – Source Media for INFs</u></p>
	<p>The methods you should use to specify source media for device files depend on whether your INFs ship separately from the operating system or are included with the operating system.</p>
	<p>INFs for drivers that are delivered separately from the operating system specify where the files are located using SourceDiskNames and SourceDiskFiles sections.</p>
	<p>If the files to support the device are included with the operating system, the INF must specify a LayoutFile entry in the Version section of the file. Such an entry specifies where the files reside on the operating system media. An INF that specifies a LayoutFile entry must not include SourceDiskNames and SourceDiskFiles sections.</p>
	<p><u>XP DDK – INF SourceDiskNames Section</u></p>
	<p>A SourceDiskNames section identifies the distribution disks or CD-ROM discs that contain the source files to be transferred to the target machine during installation. Relevant values of an entry in the INF include:</p> <p><i>diskid</i> -- Specifies a source disk.</p> <p><i>disk-description</i> – Describes the contents</p>

	<p>and/or purpose of the disk identified by <i>diskid</i>.</p> <p><i>tag-or-cab-file</i> -- This optional value specifies the name of a tag file or cabinet file supplied on the distribution disk, either in the installation root or in the subdirectory specified by <i>path</i>, if any.</p> <p><i>path</i> -- This optional value specifies the path to the directory on the distribution disk containing source files. The <i>path</i> is relative to the installation root and is expressed as <code>\dirname1\dirname2...</code> and so forth.</p> <p><i>flags</i> -- For Windows XP and later, setting this to <code>0x10</code> forces Setup to use <i>cab-or-tag-file</i> as a cabinet file name, and to use <i>tag-file</i> as a tag file name. Otherwise, <i>flags</i> is for internal use only.</p> <p><i>tag-file</i> -- For Windows XP and later, if <i>flags</i> is set to <code>0x10</code>, this optional value specifies the name of a tag file supplied on the distribution medium, either in the installation root or in the subdirectory specified by <i>path</i>. The value should specify the file name and extension without path information.</p> <p><u>XP DDK -- INF SourceDisksFiles Section</u></p> <p>A SourceDisksFiles section names the source files used during installation, identifies the source disks (or CD-ROM discs) that contain those files, and provides the path to the subdirectories, if any, on the distribution disks containing individual files. Relevant values in an entry in the INF would include:</p> <p><i>filename</i> -- Specifies the name of the file on the source disk.</p> <p><i>diskid</i> -- Specifies the integer identifying the source disk that contains the file. This value and the initial <i>path</i> to the <i>subdir</i>(ectory), if any, containing the named file must be defined in a SourceDisksNames section of the same INF.</p> <p><i>subdir</i> -- This optional value specifies the subdirectory (relative to the SourceDisksNames <i>path</i> specification, if any) on the source disk where the named file resides.</p>
information relating to metadata, said metadata including:	
metadata rules used at least in part to govern at least one aspect of use and/or display of content stored within a rights management data structure,	The driver manufacturer can specify rules in the INF that govern the installation and/or use of the driver. For example, security entries specify an access control list for the

1	driver. Driver developers can specify rules 2 in an INF file that determines behavior of 3 the driver package based on the user's 4 operating system version, including 5 product type and suite. Also, rules related 6 to logging can be specified as mentioned in 7 next claim element.
8	<p><u>For Example – Access Control List 9 Rules</u></p>
10	<p><u>XP DDK – Tightening File-Open 11 Security in a Device INF File</u></p>
12	<p>For Microsoft Windows 2000 and later, 13 Microsoft tightened file-open security in 14 the class installer INFs for certain device 15 classes, including CDROM, DiskDrive, 16 FDC, FloppyDisk, HDC, and 17 SCSIAdapter.</p>
18	<p>If you are unsure whether the class installer 19 for your device has tightened security on 20 file opens, you should tighten security by 21 using the device's INF file to assign a value 22 to the DeviceCharacteristics value name 23 in the registry. Do this within an <i>add- 24 registry-section</i>, which is specified using 25 the INF AddReg directive.</p>
26	<p>XP-DDK -- INF AddReg Directive</p>
27	<p>An INF can also contain one or more 28 optional <i>add-registry-section.security</i> 29 sections, each specifying a security 30 descriptor that will be applied to all registry 31 values described within a named <i>add- 32 registry-section</i>.</p>
33	<p>A Security entry specifies a security 34 descriptor for the device. The security- 35 descriptor-string is a string with tokens to 36 indicate the DACL (D:) security 37 component. A class-installer INF can 38 specify a security descriptor for a device 39 class. A device INF can specify a security 40 descriptor for an individual device, 41 overriding the security for the class. If the 42 class and/or device INF specifies a 43 security-descriptor-string, the PnP 44 Manager propagates the descriptor to all 45 the device objects for a device, including 46 the FDO, filter DOs, and the PDO.</p>
47	<p>For Example – Operating System 48 Versioning</p>
49	<p>Operating-System Versioning for Drivers</p>

	<p>under Windows XP</p> <p>Setup selects the [<i>Models</i>] section to use based on the following rules:</p> <p>If the INF contains [<i>Models</i>] sections for several major or minor operating system version numbers, Setup uses the section with the highest version numbers that are not higher than the operating system version on which the installation is taking place.</p> <p>If the INF [<i>Models</i>] sections that match the operating system version also include product-type decorations, product suite decorations, or both, then Setup selects the section that most closely matches the <u>running operating system</u>.</p>
	<p>11 said metadata rules including at least one rule specifying that information relating to at least one use or display of said content be recorded and/or reported.</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>The AddService directive can set up event-logging services for drivers.</p> <p>INF AddService Directive</p> <p>An AddService directive is used to control how (and when) the services of particular Windows 2000 or later device's drivers are loaded, any dependencies on other underlying legacy drivers or services, and so forth. Optionally, this directive sets up event-logging services by the devices/drivers as well.</p> <p>Relevant sections of the directive's entry include:</p> <p><i>event-log-install-section</i> -- Optionally references an INF-writer-defined section in which event-logging services for this device (or devices) are set up.</p> <p><i>EventLogType</i> -- Optionally specifies one of System, Security, or Application. If omitted, this defaults to System, which is almost always the appropriate value for the installation of device drivers. For example, an INF would specify Security only if the to-be-installed driver provides its own security support.</p> <p><i>EventName</i> -- Optionally specifies a name to use for the event log. If omitted, this defaults to the given <i>ServiceName</i>.</p>
	<p>35. A descriptive data structure as in claim 34, in which:</p> <p>27 said first rights management data structure comprises a first secure container.</p> <p>28</p> <p>The driver package is secured through a catalog file that is signed by Microsoft's Windows Hardware Quality Lab and</p>

1		contains the hash of each file of the driver's package. The INF identifies the catalog file used to sign the driver package.
3	36. A descriptive data structure as in claim 35, in which: said first secure container comprises: said content; and rules at least in part governing at least one use of said content.	The first secure container is the driver package secured by a catalog file. The content is the driver and related files within the signed driver package. The rules are within the INF, which is part of the signed driver package.
8	37. A descriptive data structure as in claim 36, wherein the descriptive data structure is stored in said first secure container.	The INF is stored within the signed driver package.
10	44. A descriptive data structure as in claim 34, further including: a representation of the format of data contained in a second rights management data structure,	The manufacture and models sections in the INF Version section are provided for the possibility of a single INF representing the format for multiple drivers. Operating system version "decorating" relating the architecture, major and minor operating systems versions, product and suit information all relate to the target environment and is used to identify the files necessary for the target environment.
17		An INF file, such as in the case of operating system targeting, can be used for more than one driver package since it can contain more than one catalog file.
19		Further an INF can address the drives necessary for a multi-functional device.
21	said second rights management data structure differing in at least one respect from said first rights management data structure.	The files of the second data structure would vary from the files on the first data structure.
23	45. A descriptive data structure as in claim 44, in which: said information regarding elements contained within said first rights management data structure includes information relating to the location of at least one such element.	INF specify where the driver files are located using the SourceDiskNames and SourceDiskFiles sections.
27	46. A descriptive data structure as in claim 44, further including: a first target data block including information relating to a first target	Operating system version "decorating" relating the architecture, major and minor

1	environment in which the descriptive data structure may be used.	operating systems versions, product and suit information all relate to the first target environment.
3	47. A descriptive data structure as in claim 46, further including:	
4	a second target data block including information relating to a second target environment in which the descriptive data structure may be used,	Operating system version decorating will cover multiple operating systems.
5		
6	said second target environment differing in at least one respect from said first target environment.	This is the reason for version decorating.
7		
8	48. A descriptive data structure as in claim 46, further including:	
9	a source message field containing information at least in part identifying the source for the descriptive data structure.	The provider entry in the version section of the INF identifies the provider of the INF file. Also, the INF contains a manufacture section.
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,920,861

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 58.	8 Product Infringing: Microsoft Reader SDK 9 and Microsoft Digital Asset Server.
10 A method of creating a first secure 11 container, said method including the 12 following steps:	13 Method is carried out by Microsoft's 14 Digital Asset Server and Microsoft's 15 Litgen tools
16 (a) accessing a descriptive data structure, 17 said descriptive data structure 18 including or addressing	19 .opf file describing the file structure of a 20 protected e-book including metadata, 21 manifest, and "spine" information
22 (1) organization information at least 23 in part describing a required or 24 desired organization of a content 25 section of said first secure 26 container, and	27 Organization information regarding 28 organization of the ebook and the 29 inscription as specified in the manifest and 30 spine information in the .opf file
31 (2) metadata information at least in 32 part specifying at least one step 33 required or desired in creation of 34 said first secure container;	35 Metadata constitutes rules specifying the 36 degree of security to use and/or XrML 37 rules
38 (b) using said descriptive data structure to 39 organize said first secure container 40 contents	41 e-book packaging carried out by Microsoft 42 Litgen tool
43 (c) using said metadata information to at 44 least in part determine specific 45 information required to be included in 46 said first secure container contents; 47 and	48 Step performed by Digital Asset Server; 49 example of specific information is 50 owner/purchaser information required in 51 the inscription process
52 (d) generating or identifying at least one 53 rule designed to control at least one 54 aspect of access to or use of at least a 55 portion of said first secure container 56 contents.	57 Analyzing the metadata and finally 58 packaging the e-book using a particular 59 security level specified through the 60 metadata
61 71. A method as in claim 58, in which:	
63 (a) said specific information required to 64 be included includes information at 65 least in part identifying at least one 66 owner or creator of at least a portion of 67 said first secure container contents.	68 Owner purchaser information required in 69 the inscription process; XrML rule 70 requiring display of copyright notice

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,920,861

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	58.	Product Infringing: All products that host the Microsoft Common Language Runtime or Compact Common Language Runtime.
	A method of creating a first secure container, said method including the following steps;	Method is practiced by a user using the Common Language Runtime (CLR) or Compact Common Language Runtime (CCLR) to create a dynamic shared assembly or .NET Framework SDK to create a shared assembly
	(a) accessing a descriptive data structure, said descriptive data structure including or addressing	.NET framework Assembly class and/or AssemblyBuilder class and/or AssemblyInfo file
	(1) organization information at least in part describing a required or desired organization of a content section of said first secure container, and	This information is specified in the classes named above and in the AssemblyInfo file.
	(2) metadata information at least in part specifying at least one step required or desired in creation of said first secure container;	This information is addressed in the classes and the AssemblyInfo file, e.g., for a shared assembly metadata will be specified that the assembly is to be signed using specified key
	(b) using said descriptive data structure to organize said first secure container contents;	This step is carried out by applications and tools using the classes and assembly info file, including CLR (or CCLR) and .NET Framework SDK
	(c) using said metadata information to at least in part determine specific information required to be included in said first secure container contents; and	This step is carried out by applications and tools using the assembly info file and classes that specify the metadata required in the target assembly
	(d) generating or identifying at least one rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents.	User may specify rules, as specified in the .NET Framework SDK, to be placed in the assembly manifest including such rules requiring that all code be managed (CLR or CCLR compliant), "Code Access Security" permissions be supplied for use of code supplied in the assembly, etc
	64. A method as in claim 58, in which:	
	(a) said creation of said first secure container occurs at a first data processing arrangement located at a first site;	Can be a server, PC or workstation running CLR (or CCLR) to create a dynamic shared assembly or .NET Framework SDK to create a shared assembly)
	(b) said first data processing arrangement including a communications port; and	Included in virtually any computer
	(c) said method further includes:	
	(1) prior to said step of accessing said descriptive data structure, said	Download of the assemblyinfo file and/or a file containing a class calling the

1	first data processing arrangement receiving said descriptive data structure from a second data processing arrangement located at a second site.	DefineDynamicAssembly methods or download of SDK containing assemblybuilder class from a second site.
2	(d) said receipt occurring through said first data processing arrangement communications port.	Communications port is normally used for downloading
3	67. A method as in claim 64, further comprising:	
4	at said first processing site, receiving said metadata through said communications port.	Download of the AssemblyInfo file and/or a file containing a class calling the DefineDynamicAssembly methods or download of SDK containing assemblybuilder class from a second site
5	68. A method as in claim 67, in which,	
6	(a) said metadata is received separately from said descriptive data structure.	Method practiced when metadata names are addressed by the assembly class and a template for the AssemblyInfo file, and values corresponding to those names are received through a user interface such as provided by Microsoft Visual Studio or are provided from a separate file
7	71. A method as in claim 58, in which:	
8	(a) said specific information required to be included includes information at least in part identifying at least one owner or creator of at least a portion of said first secure container contents.	The Assembly class definition includes attributes for company name and trademark information, and these may be required attributes specified in the AssemblyInfo file
9	72. A method as in claim 58, in which:	
10	(a) said specific information required to be included includes a copyright notice.	The Assembly class definition includes an attribute for copyright field that may be required by the AssemblyInfo file
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,920,861

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
58.	Product Infringing: Microsoft .NET Framework, Visual Studio .NET, and tools that include the Assembly Generator tool AL.exe.
A method of creating a first secure container, said method including the following steps;	The Assembly Generation tool generates a portable execution file with an assembly manifest from one or more files that are either Microsoft intermediate language (MSIL) modules or resource files. When using the tool's signing option, the assembly becomes a <i>secure container</i> .
(a) accessing a descriptive data structure, said descriptive data structure including or addressing	The <i>descriptive data structure</i> is the text file used as input by the Assembly Generation tool.
(1) organization information at least in part describing a required or desired organization of a content section of said first secure container, and	The DDS specifies the <i>link</i> and or <i>embed</i> directives to indicate which source files should be included in the assembly, how the included resource will be tagged, and if the resource will be private. Private resources are not visible to other assemblies. These tags are used to organize the assembly into <i>named</i> sections. Private attributes are used to organize the assembly into both public and <i>private</i> sections. (Public sections are the default.)
(2) metadata information at least in part specifying at least one step required or desired in creation of said first secure container;	The text file can contain "options" relating to how the assembly should be built and additional information that should be included. <i>Main</i> – Specifies the method to use as an entry point when converting a module to an executable file. <i>AlgId</i> – Specifies an algorithm to hash all files. <i>Comp</i> – Specifies string for the Company field. <i>Conf</i> – Specifies string for Configuration field <i>Copy</i> – Specifies string for Copyright field. <i>Culture</i> – Specifies the culture string to associate with the assembly. <i>Delay</i> – Variation of this option specifies whether the assembly will be

	<p>fully or partially signed and whether the public key is placed in the assembly.</p> <p><i>Description</i> – Specifies the description field.</p> <p><i>Evidence</i> – Embeds file in the assembly with the resource name <i>Security.Evidence</i>.</p> <p><i>Fileversion</i> – Specifies the file version of the assembly.</p> <p><i>Flags</i> – Specifies flags for such things as the assembly is side-by-side compatible, assembly cannot execute with other versions if either they are executing in the same application domain, process or computer.</p> <p><i>Keyf</i> – Specifies a file that contains a key or key pair to sign an assembly.</p> <p><i>Keyn</i> – Specifies the container that holds a key pair.</p> <p><i>Product</i> – Specifies string for Product field.</p> <p><i>Productv</i> – Specifies string for Product Version.</p> <p><i>Template</i> – Specifies the assembly from which to inherit all assembly metadata.</p> <p><i>Title</i> – Specifies string for Title field.</p> <p><i>Trade</i> – Specifies string for Trademark field.</p> <p><i>V</i> – Specifies version information.</p>
<p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>(b) using said descriptive data structure to organize said first secure container contents</p> <p>The following directives are used to specify which files are to be compiled into the assembly, how they will be tagged, and whether or not they will be visible to other assemblies, AKA private:</p> <p><i>Embed</i>[<i>name, private</i>] – copies the content of the file into the assembly and applies an optional name tag, and optional private attribute.</p> <p><i>Link</i>[<i>name, private</i>] – file becomes part of the assembly via a link and applies an optional name tag, and optional private attribute.</p>
	<p>(c) using said metadata information to at least in part determine specific information required to be included in said first secure container contents; and</p> <p>The following are some of the “options” address what information should be included in the secure container:</p> <p><i>Main</i> – Specifies the method to use as an entry point when converting a module to an executable file.</p> <p><i>Comp</i> – Specifies string for the Company field.</p> <p><i>Conf</i> – Specifies string for Configuration field</p> <p><i>Copy</i> – Specifies string for Copyright</p>

	<p>field.</p> <p><i>Culture</i> – Specifies the culture string to associate with the assembly.</p> <p><i>Description</i> – Specifies the description field.</p> <p><i>Evidence</i> – Embeds file in the assembly with the resource name <i>Security.Evidence</i>.</p> <p><i>Fileversion</i> – Specifies the file version of the assembly.</p> <p><i>Flags</i> – Specifies flags for such things as the assembly is side-by-side compatible, assembly cannot execute with other versions if either they are executing in the same application domain, process or computer.</p> <p><i>Keyf</i> – Specifies a file that contains a key or key pair to sign an assembly.</p> <p><i>Keyn</i> – Specifies the container that holds a key pair.</p> <p><i>Product</i> – Specifies string for Product field.</p> <p><i>Productv</i> – Specifies string for Product Version.</p> <p><i>Template</i> – Specifies the assembly from which to inherit all assembly metadata.</p> <p><i>Title</i> – Specifies string for Title field.</p> <p><i>Trade</i> – Specifies string for Trademark field.</p> <p><i>V</i> – Specifies version information.</p>	
<p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>(d) generating or identifying at least one rule designed to control at least one aspect of access to or use of at least a portion of said first secure container contents.</p>	<p>User may specify rules, as specified in the .NET Framework SDK, to be placed in the assembly manifest including such rules requiring that all code be managed (CLR compliant), “Code Access Security” permissions be supplied for use of code supplied in the assembly, etc.</p>
	<p>71. A method as in claim 58, in which:</p>	
<p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p>	<p>(a) said specific information required to be included includes information at least in part identifying at least one owner or creator of at least a portion of said first secure container contents.</p>	<p>The following “options” specifies owner and creator information:</p> <p><i>Comp</i> – Specifies string for the Company field.</p> <p><i>Copy</i> – Specifies string for Copyright field.</p> <p><i>Trade</i> – Specifies string for Trademark field.</p>
	<p>72. A method as in claim 58, in which:</p>	
<p>26</p> <p>27</p>	<p>(a) said specific information required to be included includes a copyright notice.</p>	<p>The copy “option” specifies the string for the for the Copyright field.</p>

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,982,891

CLAIM LANGUAGE		CLAIM OF INFRINGEMENT
1.		Products infringing: All products that include the Common Language Runtime or Compact Common Language Runtime or Common Language Infrastructure.
	A method for using at least one resource processed in a secure operating environment at a first appliance, said method comprising:	Resource may constitute a Microsoft Windows process or hardware element; secure operating environment is Microsoft Common Language Runtime ("CLR") environment, Common Language Infrastructure ("CLI") or Compact CLR ("CCLR"); first appliance is computer running CLR, CLI or Compact CLR. Two infringing scenarios are set forth herein: (1) For CLR, an administrator, using the .NET framework caspol.exe tool remotely configures security policy in a .NET configuration file for a machine, enterprise, user, or application and that security policy interacts with rules or evidence declared in a shared assembly provided by another entity ("1 st scenario"); and (2) for CLR, CLI and CCLR two assemblies are delivered to an appliance; the first assembly has a rule that demands permissions from a caller in the second assembly, and the second assembly includes a control that asserts such permissions or provides evidence that convinces the runtime that it has such permissions. ("2 nd scenario"). In each scenario Microsoft .NET "Code Access Security" framework or "Role Based Security" framework is used.
	(a) securely receiving a first entity's control at said first appliance, said first entity being located remotely from said operating environment and said first appliance;	1 st scenario: first entity is the administrator, and the policy that constitutes this entity's control is securely received at the first appliance through a session established between the administrator's computer and the first appliance, requiring security credentials such as the administrator's login and password or other secure session means. 2 nd scenario: first entity is creator or distributor of the first assembly, assembly manifest includes a control demanding or refusing or otherwise asserting a security action on permissions from a caller; first assembly is integrity-checked.
	(b) securely receiving a second entity's control at said first appliance, said second entity being located remotely from said operating environment and said first appliance, said second entity being different from said first	Second entity's control is contained in shared assembly manifest (and therefore integrity protected) that provides evidence for obtaining permissions, or asserts permissions; assembly creator/distributor is located remotely and is

1	entity; and	not the administrator (1 st scenario) or creator/distributor of the first container (2 nd scenario);
2	(c) securely processing a data item at said first 3 appliance, using at least one resource, 4 including securely applying, at said first 5 appliance through use of said at least one resource said first entity's control and said 6 second entity's control to govern use of said data item.	Secure processing is carried out by CLR, CLI or CCLR, Data item constitutes an executable code element, an interface controlled by such an executable, a data collection or stream (such as media file or stream or text file) or an environment variable. CLR, CLI or CCLR securely processes the rules, which will in both scenarios govern access to methods and data from the first assembly. The resource named in the claim is, e.g., a Windows process that is established by the runtime or hardware element on the computer.
7	51. A method as in claim 1 wherein at least 8 said secure processing step is performed at an 9 end user electronic appliance.	Consumer computer or appliance running 10 Microsoft CLR, CLI or CCLR).
11	58. A method as in claim 1 wherein the step of 12 securely receiving a first entity's control 13 comprises securely receiving said first entity's 14 control from a remote location over a 15 telecommunications link, and the step of 16 securely receiving said second entity's control 17 comprises securely receiving said second 18 entity's control from the same or different remote location over the same or different telecommunications link.	1 st scenario 1: link is LAN or WAN; 2 nd scenario: link is any telecommunications link, including the internet.
19	65. A method as in claim 1 wherein the 20 processing step includes processing said first 21 and second controls within the same secure 22 processing environment.	Secure processing environment is CLR, CLI or 23 CCLR running on user's computer or appliance.
24	71. A method as in claim 1 further including 25 the step of securely combining said first entity's control and said second entity's control to provide a combined control arrangement.	In scenario 2, arrangement consists of the stack frame, and the corresponding array of 26 permission grants for assemblies on the stack, and the permission demanded by the first assembly. Secure combining performed by the CLR, CLI or CCLR.
27	76. A method as in claim 1 wherein said two 28 securely receiving steps are independently performed at different times.	Steps are performed at different times in both scenarios.
29	84. A method as in claim 1 wherein at least one 30 of the first entity's control and the second entity's control comprises at least one 31 executable component and at least one data component.	In both scenarios the second entity supplies an assembly with a demand procedure executed 32 by the CLR, CLI or CCLR. The data component is a specific attribute value referenced by the assembly.
33	89. A method as in claim 1 wherein said first 34 appliance includes a protected processing 35 environment, and wherein:	Microsoft Common Language Runtime (CLR), Common Language Infrastructure (CLI), or Compact Common Language Runtime (CCLR) environment.
36	(a) said method further comprises a step of 37 receiving, at said first appliance, said data item	Typically occurs in both scenarios.

1	separately and at a different time from said receiving said first entity's control ; and	
2	(b) said securely processing step is performed at least in part in said protected processing environment	Protected processing environment is the CLR, CLI or CCLR.

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 **INTERTRUST INFRINGEMENT CHART**
4 **FOR U.S. PATENT NO. 5,982,891**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>22.</p> <p>Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport</p> <p>A method of securely controlling use by a third party of at least one protected operation with respect to a data item comprising:</p> <p>(a) supplying at least a first control from a first party to said third party;</p> <p>(b) supplying, to said third party, at least a second control from a second party different from said first party;</p> <p>(c) securely combining at said third party's location, said first and second controls to form a control arrangement;</p> <p>(d) securely requiring use of said control arrangement in order to perform at least one protected operation using said data item; and</p> <p>(e) securely performing said at least one protected operation on behalf of said third party with respect to said data item by at least in part employing said control arrangement</p>	<p>A user (third party) accesses an IRM-protected data item governed by IRM controls under two or more RMS servers. For example, the data item may be a IRM-protected document.</p> <p>The IRM controls may be associated with the data item directly or via a IRM-protected container holding the IRM-protected data item, such as an IRM-protected email with the IRM-protected document attached.</p> <p>The user acquires a first use license from a first RMS server (first party) enabling access to, the IRM-protected data item under the IRM rules associated with the first RMS server. For example: (1) the first use license from the first RMS server permits the user to access a IRM-protected document contained within or attached to an IRM-protected email; or (2) the first use license from the first RMS server applies a first set of IRM rules to an IRM-protected document.</p> <p>The user acquires a second use license from a second RMS server (second party) enabling access to the IRM-protected data item under the IRM rules associated with the second RMS server. For example: (1) in addition to the user being given access to an IRM-protected email based on a first use license, a second RMS server provides a second use license enabling access to the IRM-protected document attached thereto; or (2) the second use license from the second RMS server applies a second set of IRM rules to the IRM-protected document.</p> <p>The first and second use licenses are combined to form a control arrangement that governs access to the IRM-protected data item.</p> <p>The combined first and second use licenses govern access to the IRM-protected data item.</p> <p>The user performs a protected operation (e.g., read, print, edit) on the IRM-protected data item. The combined first and second use licenses are employed to permit the protected operation.</p>
---	---	--

1	23. A method as in claim 22 wherein said data item is protected.	The data item is encrypted and protected by IRM.
2	39. A method as in claim 22 further including securely and persistently associating at least one of: (a) said first control, (b) said second control, and (c) said control arrangement, with said data item.	The first and/or second use license are securely and persistently associated with the IRM-protected data item.
5	53. A method as in claim 22 wherein at least two of the recited steps are performed at an end user electronic appliance.	Steps performed at a user's computer or appliance.
8	60. A method as in claim 22 wherein step (a) comprises supplying said first control from at least one remote location over a telecommunications link, and step (b) comprises supplying said second control from the same or different remote location over the same or different telecommunications link	The first and second use licenses are received over a telecommunications link such as a networking or modem/serial interface.
10	67. A method as in claim 22 wherein at least step (c) is performed within the same secure processing environment at said third party's location.	Steps are performed at user's computer or appliance.
12	91. A method as in claim 22 wherein: (a) said method further comprises supplying said data item to said third party separately and at a different time from supplying of said first control to said third party; and	The first use license (first control) is received at the time that the user accesses the data item, which occurs separately and at a different time from receipt of the IRM-protected data item itself.
15	(b) said securely performing step comprises performing said protected operation at least in part in a protected processing environment.	The protected operations require decryption of the protected content, which is done inside the RM lockbox. The RM lockbox is protected by mechanisms such as obfuscation, anti-debugging, and tamper resistance.
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,982,891

3 26.	4 5 6 Products infringing: Visual Studio.NET, .NET Framework SDK, and all products that include the Common Language Runtime or Compact Common Language Runtime or Common Language Infrastructure.
7 A secure method for combining data items into a composite data item comprising:	
8 (a) securely providing, from a first location to a second location, a first data item having at least a first control associated therewith;	9 A first signed and licensed .NET component, .NET assembly, managed control and/or Web control (component) is the first data item. The first .NET component developer (first location) provides the application assembly developer (second location) the first component. The first control is the set of declarative statements comprising the LicenseProviderAttribute (alternately referred to as license controls).
10 11 12 (b) securely providing, from a third location to said second location, a second data item having at least a second control associated therewith;	13 14 15 A second signed and licensed component is the second data item. The second component developer (third location) provides the application assembly developer (second location) the second component. The second control is the set of declarative statements comprising the LicenseProviderAttribute.
16 17 18 (c) forming, at said second location, a composite of said first and second data items;	19 The application assembly developer will include at least the two components into its assembly.
20 21 22 (d) securely combining, at said second location, said first and second controls to form a control arrangement; and	23 24 25 At the second location, the application assembly developer uses the .NET runtime that includes the LicenseManager.
26 27 28	29 Whenever a component is instantiated (here, an instance of the first licensed component), the license manager accesses the proper validation mechanism for the component. The license controls (first control) for the runtime license (derived from the design time license) are bound into the header of the .NET application assembly, along with the second control for the second component.

	<p>1 included in the first component is 2 customized in the second location to 3 express and require the runtime license. In 4 a more advanced scenario, the License 5 Complier tool can be used to create a 6 “.licenses file” containing licenses for 7 multiple components, including runtime 8 licenses for components and classes created 9 by the license provider. This .licenses file 10 is embedded into the assembly.</p> <p>11</p> <p>12 The third control set comprises the runtime 13 license controls for the first and second 14 components (that had been bound to the 15 assembly), the declarative controls 16 provided by the application assembly 17 developer, and any runtime licenses for 18 other components included by the 19 developer in application assembly. The 20 controls are typically integrated into the 21 header of the .NET application assembly 22 calling the first licensed component.</p>
<p>12 (e) performing at least one operation on 13 said composite of said first and second data 14 items based at least in part on said control 15 arrangement.</p>	<p>16 The proper execution of the application 17 will require that the assembly have run 18 time licenses for the two components.</p>
<p>15 27. A method as in claim 26 wherein said 16 combining step includes preserving each of 17 said first and second controls in said 18 composite set.</p>	<p>19 The set of declarative statements 20 comprising the LicenseProviderAttribute of 21 both the first and second components are 22 included in the application assembly.</p>
<p>17 28. A method as in claim 26 wherein said 18 performing step comprises governing the 19 operation on said composite of said first 20 and second data items in accordance with 21 said first control and said second control.</p>	<p>22 The application will require the first and 23 second controls to operate properly when it 24 calls the first and second data items, 25 respectively.</p>
<p>20 29. A method as in claim 26 wherein said 21 providing step includes ensuring the 22 integrity of said association between said 23 first controls and said first data item is 24 maintained during at least one of 25 transmission, storage and processing of 26 said first data item.</p>	<p>27 Signing the component that has embedded 28 within it the license control ensures the 29 integrity of the association of the control 30 and data item.</p>
<p>24 31. A method as in claim 26 wherein said 25 providing step comprises codelivering said 26 first data item and said first control.</p>	<p>27 The component includes the license control 28 and therefore they are codelivered.</p>
<p>26 40. A method as in claim 26 further 27 including the step of securely ensuring that 28 at least one of (a) said first control, (b) said 29 second control, and (c) said control 30 arrangement, is persistently associated with</p>	<p>31 Each component includes the license 32 control. Signing the component that has 33 embedded within it the license control 34 ensures the persistence of the association of 35 the control and data item.</p>

1	at least one of said first and second data items.	
2		
3	54. A method as in claim 26 wherein at least one of steps (c), (d) and (e) is performed at an end user electronic appliance.	At least step (e) is typically performed at an end-user electronic appliance.
4		
5	61. A method as in claim 26 wherein step (a) comprises providing said first data item from at least one remote location over a telecommunications link, and step (b) comprises providing said second data item from the same or different remote location over the same or different telecommunications link.	Microsoft maintains Web sites where a developer can get components over the Web. These sites include references whereby a developer may obtain components through their Web connection. One such site is Internet Explorer Web Control Gallery at ie.components.microsoft.com/webcontrols
6		
7		
8		
9		
10	68. A method as in claim 26 wherein step (d) is performed within the same secure processing environment at said second location.	Typically, step (d) will be performed within the same secure processing environment.
11		
12	79. A method as in claim 26 wherein steps (a) and (b) are performed at different times.	The application assembly developer will typically acquire components at different times.
13		
14	86. A method as in claim 26 wherein at least one of the first and second controls comprises at least one executable component and at least one data component.	The component must include an executable and can include a data items as a EULA, readme file or help file.
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,982,891

4		CLAIM LANGUAGE	5	CLAIM OF INFRINGEMENT
6	35	Infringing products include: Windows 7 Media Player, Individualized DRM Clients 8 and the Secure Audio Path (SAP) 9 technology.		10
11	A method for using at least one resource 12 processed by a secure operating 13 environment, said method comprising: 14 securely receiving a first load module 15 provided by a first entity external to said 16 operating environment		The Individualized DRM Client (first load 17 module) is a signed security upgrade DLL. 18 It is also bound to the hardware ID of the 19 machine on which it runs. It is therefore 20 securely delivered and integrity protected.	
21	securely receiving a second load module 22 provided by a second entity external to said 23 operating environment, said second entity 24 being different from said first entity; and 25		A SAP certified driver is also signed and 26 carries with it a certificate that indicates its 27 compliance with SAP criteria. If it is 28 delivered to a PC it is secure in the sense 29 that it is integrity protected. This driver 30 would not come from the same entity as the 31 Individualization DLL.	
32	securely processing, using at least one 33 resource, a data item associated with said 34 first and second load modules, including 35 securely applying said first and second load 36 modules to manage use of said data item.		If a WM audio file targeted to the 37 Individualized DRM client carries with it a 38 requirement that SAP be supported to 39 render the WMF contents, the content is 40 processed for playing through a soundcard 41 using the WMP and by applying the DRM 42 client - which decrypts the content and 43 negotiates with the DRM kernel processing 44 of the content through a Secure Audio Path 45 that includes the SAP-certified audio 46 driver.	
47	56. A method as in claim 35 wherein at 48 least two of the recited steps are performed 49 at an end user electronic appliance.		All steps occur at the user's PC that 50 supports the WMP and DRM client and 51 SAP.	
52	63. A method as in claim 35 wherein said 53 first load module receiving step comprises 54 securely receiving said first load module 55 from at least one remote location over at 56 least one telecommunications link, and said 57 second load module receiving step 58 comprises securely receiving said second 59 load module from the same or different 60 remote location over the same or different 61 telecommunications link.		The Driver and DRM client are received 62 from distinct locations and may be 63 delivered securely over the Internet. They 64 are delivered securely in that each is 65 integrity protected.	
66	70. A method as in claim 35 wherein said 67 securely processing step comprises 68 securely executing said first and second		Both load modules are executed on the PC 69 within the WMP/DRM Client/SAP 70 environment.	

1 CLAIM LANGUAGE		2 CLAIM OF INFRINGEMENT	
2 load modules within the same secure processing environment.			
3 74. A method as in claim 35 further including securely combining said first and second load modules to provide a combined executable.		4 Since both the DRM client and the driver are DLLs in the same audio rendering chain, they exist as an execution environment.	
5			
6 81. A method as in claim 35 wherein said securely receiving steps are performed independently at different times.		7 The driver and Individualization DLL need not be received at the same time.	
8 94. A method as in claim 35 wherein said secure operating environment includes a protected processing environment, and wherein:		9	
10 said method further comprises receiving a data item within said secure operating environment;		11 The Windows Media Player together with the Individualized DRM Client and Secure Audio Path comprise a protected environment for processing protected media. The protected Windows Media Files are received after the load modules have been received and installed (licenses cannot be acquired until load modules are in place). The processing of the Windows Media File occurs in the protected environment.	
12 said first load module receiving step is performed separately and at a time different from receiving said data item; and		13	
14 said securely processing step is performed at least in part in said protected processing environment.		15	

Examples of SAP-certified drivers include - as indicated at
<http://www.microsoft.com/Windows/windowsmedia/WM7/DRM/FAQ.asp#Security7>

- All VIA controllers with AC-97 codecs
- All ALI controllers with AC-97 codec
- Intel ICH controllers with AC-97 codecs
- Creative Labs SoundBlaster16/AWE32/AWE64/Vibra
- Yamaha OPL3
- Yamaha DS-1
- Cirrus Logic (Crystal) CS4280
- Cirrus Logic (Crystal) CS4614 / CS4624
- ESS Maestro 2E
- USB Audio
- Cirrus Logic (Crystal) CS4281

- 1 ▪ All SiS controllers with AC-97 codecs
- 2 ▪ Ensoniq ES1370
- 3 ▪ NeoMagic NM6
- 4 ▪ Ensoniq ES1371/73 and CT5880
- 5 ▪ SoundBlaster Live!
- 6 ▪ Aureal 8810
- 7 ▪ Aureal 8820
- 8 ▪ Aureal 8830
- 9 ▪ Conexant Riptide
- 10 ▪ ESS Maestro
- 11 ▪ ESS ISA parts
- 12 ▪ NeoMagic NMS
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,982,891

36.		Product Infringing: Any product using Common Language Runtime (CLR), Common Language Infrastructure (CLI), or Compact Common Language Runtime (CCLR)
A secure operating environment system for managing at least one resource comprising:		Microsoft CLR, CLI or CCLR (operating environment system), managing any of the resources on a typical computer, including memory, files system, communications ports, storage devices, and higher level resources that may use any of these or combinations of them.
(a) a communications arrangement		Communications port and Microsoft Internet Protocol stack that may optionally use Secure Socket Layer protocol or IPSEC packet security protocol, supplied with Microsoft Windows.
(1) that securely receives a first control of a first entity external to said operating environment, and		Rule or evidence contained in the manifest of a shared assembly, distributed by a first entity that can be used by the CLR, CLI or CCLR to determine permissions that may be needed to cause operations on a data item or resource controlled by another entity; shared assembly is tamper-protected and may be received using secure SSL or IPSEC protocol.
(2) securely receives a second control of a second entity external to said operating environment, said second entity being different from said first entity; and		Rule specified in the manifest of a second shared (Tamper protected) assembly, that demands permissions of callers of its methods.
(b) a protected processing environment, operatively connected to said communications arrangement, that:		CLR, CLI or CCLR, connected to (e.g.) communications port
(1) [] securely processes, using at least one resource, a data item logically associated with said first and second controls, and		CLR, CLI or CCLR uses type safety mechanisms, access controls, integrity detection, and separation of domains. Data item may be any data item that is managed by the second assembly, which may be a member of such assembly, and whose state or value may be accessible through an interface to other assemblies, and which is referenced by the first assembly.
(2) [] securely applies said first and second controls to manage said resource for controlling use of said data item.		CLR, CLI or CCLR processes the demand for permissions from the second assembly, collects the evidence or processes the rule from the first assembly, and determines whether the first assembly has the permissions to use the resource to operate on the data item controlled by the second assembly.
57. A system as in claim 36 wherein said protected processing environment is part of an		Computer or electronic appliance running CLR, CLI or CCLR

1	end user electronic appliance.	
2	64. A system as in claim 36 wherein said communications arrangement receives said first and second controls from at least one remote location over at least one telecommunications link.	Shared assemblies are designed to be received remotely, e.g., over the internet.
3	75. A system as in claim 36 wherein said protected processing environment combines said first and second controls to provide a combined control arrangement.	Arrangement consists of the stack frame and the corresponding array of permission grants for assemblies on the stack, and the permission demanded by the second assembly.
4	82. A system as in claim 36 wherein said communications arrangement independently receives said first and second controls at different times	Assemblies, including controls, are designed for independent delivery.
5	88. A system as in claim 36 wherein at least one of the first control and second controls comprises at least one executable component and at least one data component.	The second entity supplies an assembly with a demand procedure (executed by the CLR, CLI or CCLR) that includes reference to a specific attribute value (the data component), and the protected processing environment executes the executable component (demand) in a manner that is at least in part responsive to the data component (execution is in response to the security action supplied in the data item).
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,982,891

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 36.	Infringing Product: My Services
8 A secure operating environment system 9 for managing at least one resource 10 comprising: 11 a communications arrangement that 12 securely receives	Secure operating environment is the secure server for any .NET My Services service (e.g. My Calendar, My Inbox) Secure server receives communications formatted using the SOAP-SEC, the security extension to SOAP that is used by My Service servers to receive controls.
13 a first control	The first control is a roleTemplate associated with the service. The roleTemplate identifies specific actions (e.g. read, replace) that can be performed against a certain scope (resource or set of resources).
14 of a first entity external to said operating 15 environment,	The first entity is the administrator of the server database, or other entity with authority over its content that sets up the roleTemplates and scopes. That entity is independent from and located remotely from the secure server.
16 and securely receives a second control	A role element specified by a specific end user, which is securely received by the secure server using the SOAP-SEC protocol.
17 of a second entity external to said 18 operating environment, said second entity 19 being different from said first entity;	The end user is located remotely from the secure server.
20 and a protected processing environment, 21 operatively connected to said 22 communications arrangement, that:	The protected processing environment is the .NET security service (authorization system) operating within the server. The server uses the SOAP-SEC communication protocol to receive controls.
23 (a) securely processes, using at least one 24 resource, a data item logically associated 25 with said first and second controls, and	“Securely processes” is performing the requested operation on secure server running .NET. The system will perform the requested operation ensuring that the user has no access to information outside the

	<p>1 scope computed.</p> <p>2 The resource is the server software and/or</p> <p>3 hardware used to process the two controls</p> <p>4 and user data.</p> <p>5 The first control is the roleTemplate for the</p> <p>6 service. The second control is the role</p> <p>7 element for an individual user.</p> <p>8 The data item is the end user's stored</p> <p>9 content (e.g. calendar, email inbox, etc.).</p>
<p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p>	<p>8 (b) securely applies said first and second</p> <p>9 controls to manage said resource for</p> <p>10 controlling use of said data item.</p> <p>11</p> <p>12 64. A system as in claim 36 wherein said</p> <p>13 communications arrangement receives said</p> <p>14 first and second controls from at least one</p> <p>15 remote location over at least one</p> <p>16 telecommunications link.</p> <p>17 75. A system as in claim 36 wherein said</p> <p>18 protected processing environment</p> <p>19 combines said first and second controls to</p> <p>20 provide a combined control arrangement.</p> <p>21 82. A system as in claim 36 wherein said</p> <p>22 communications arrangement</p> <p>23 independently receives said first and</p> <p>24 second controls at different times.</p> <p>25 95. A secure operating environment system</p> <p>26 as in claim 36 wherein said</p> <p>27 communications arrangement also receives</p> <p>28 a data item separately and at a different</p> <p>time from at least one of said first control</p> <p>and said second control.</p>
	<p>The secure server determines the result scope (visible node set) for the operation that is computed from the role element and the roleTemplate. That result scope is used to manage the data item.</p> <p>The remote location is the site where the user's or administrator's application is running.</p> <p>The telecommunication link can be the Internet, intranet, VPN or other similar channels.</p> <p>The role scope incorporating the role element and the role Template.</p> <p>Administrator and user controls will ordinarily be received at different times.</p> <p>This is the normal case for .NET My Services. The user's content is normally stored and updated independently of the setting of scope elements, role elements and roleTemplates.</p>

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,157,721

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 1. A security method comprising: 8 9 10 11 12 13 14	10 Product Infringing: Windows CE for Automotive 11 WCEfA is Microsoft Windows CE for Automotive, sometimes also known by its former name, AutoPC 2.0. 12 With WCEfA an OEM can assign their device to a class that only accepts certain kinds of software. The device can be set to accept 1) any software with the correct processor/version 2) only certified software or 3) only software from the OEM or Microsoft. These Security (or Trust) levels also control to which kernel APIs and middleware APIs the software has access. 13 Background: 14 "Microsoft Software Install Manager (SIM), a component of WCEfA, allows you to control what can be installed on your device platform. You can define your platform as being <u>open</u> , <u>closed</u> or <u>restricted</u> to new installations, and SIM will enforce these designations." (D, pg.1) 15 "Anything can be installed on an open platform, as long as the applications are compiled for the appropriate processor. At the other extreme, no third-party software can be installed on a closed platform. Only certified applications can be installed on a restricted platform." (D, pg.1) 16 "By restricting installations to compliant applications, the risk of installing and using incompatible or harmful software is greatly reduced, while still keeping the device open for robust, quality applications that enhance the user experience." (F, pg.1) 17 WCEfA also has a Security Layer whose purpose is to "Create an abstraction layer of security surrounding ISV applications to limit and/or deny access to key Windows CE kernel API calls and WCEfA middleware APIs." I, pg. 1)
18 19 20 21 22 23 24 (a) digitally signing a first load module with a first digital signature designating the first load module for use by a first device class; 25 26 27 28	20 A <i>first load module</i> is a WCEfA software component in a signed .PE file. The <i>first device class</i> is a device that only allows software designated as "restricted" (or higher) to be installed. "Restricted" software is software that has been certified. With restricted software, the device also implements a Security Layer functionality that limits the kernel and WCEfA API calls that the software can make.

1	"SIM Level: 1 = Restricted
2	Description: Only properly certified CEI (WCEfA device installation) files can be installed on the device.
3	Remote execution is restricted to executables with master key.
4	Key: Logo certified CEI file required. CEI files or EXEs with master keys permitted." (F, pg.1)
5	"The kernel loader calls it each time a module is loaded by Windows CE. It returns one of the following values that determine the module's access to kernel resources:
6	
7	Value
8	Meaning
9	OEM_CERTIFY_TRUST (2)
10	The module is trusted by the OEM to perform any operation.
11	OEM_CERTIFY_RUN (1)
12	The module is trusted by the OEM to run but is restricted from making certain function calls.
13	OEM_CERTIFY_FALSE (0)
14	The module is not allowed to run.
15	" (H, pg. 1)
16	<i>Digital signing:</i> "Before the kernel loads a file, it uses the OEMCertifyModule function to verify that the file contains the proper signature." (N, pg.1)
17	"Signfile.exe: This tool signs an executable with a supplied private key. You can use the following command parameters with this tool....-s AttribString, specifies an optional attribute string to be included in the signature. For example, you could add a string to indicate the trust level of the application." (O, Pg.1)
18	
19	In the MSDN article <u>Verifying the Signature</u> , the sample code segment states
20	"//the file has a valid signature
21	//we expect the trust level to be returned as signed
22	data...
23	//case 'R' : dwTrustLevel = OEM_CERTIFY_RUN" (N, pg.2)
24	
25	"The WCEfA Security Layer isolates installed
26	applications from making unrestricted kernel and
27	WCEfA API calls. This allows the OEM to assign one of
28	three levels of security to applications and drivers
	installed in RAM when they are loaded into the system.
	The three levels are Trusted..., Restricted..., and
	Blocked...On the systems level, the WCEfA Security

	<p>layer fits between ISV applications and isolates these software modules from having free access to all WinCE kernel calls and WCEfA middleware APIs." (I, pg. 1)</p> <p>The developer submits their application for certification. If it passes, then the .cei file (a form of cab file) receives a certification key from the certifier. The signed PE is within this .cei file.</p>
<p>6 (b) digitally signing a second load module with 7 a second digital signature different from the 8 first digital signature, the second digital 9 signature designating the second load module 10 for use by a second device class having at least one of tamper resistance and security level different from the at least one of tamper resistance and security level of the first device class;</p>	<p>A <i>second load module</i> is a WCEfA software component is a signed PE file. The <i>second device class</i> with a different tamper resistance or security level is a device that is "Closed", that is, it will not allow third party to software to be installed. A closed device only allows trusted software to run. The Security Layer setting of "Trusted" allows the Microsoft and OEM software full access to kernel and middleware APIs.</p> <p>In the MSDN article <u>Verifying the Signature</u>, the sample code segment states</p> <pre>//the file has a valid signature // we expect the trust level to be returned as signed data... //case 'T' : dwTrustLevel = OEM_CERTIFY_TRUST"</pre> <p>(N, pg.2)</p> <p>"Signfile.exe: This tool signs an executable with a supplied private key. You can use the following command parameters with this tool....-s AttribString, specifies an optional attribute string to be included in the signature. For example, you could add a string to indicate the trust level of the application. (O, Pg. 1)</p> <p>"SIM Level: 2 = Closed</p> <p>Description: Platform is limited to software supplied directly by OEM or Microsoft. Third-party applications cannot be installed. ...</p> <p>Key: Master key required for any install or remote execution." (F, pg.1)</p> <p>Related to the Security Layer, the Trusted level "is most likely reserved for MS and OEM applications and drivers." (I, pg. 1)</p> <p>Whereas the .cei files for certified software have a certification key (sometimes call MS Logo key), the .cei files from Microsoft or the OEM have a master key attached. ""Master key required for any install or remote execution." (F, p.g1)</p>
<p>26 (c) distributing the first load module for use by 27 at least one device in the first device class; and</p>	<p><i>First load module</i> is the certified software from a third party that will be run as part of the "Restricted" <i>first device class</i>.</p> <p>"Once your application is complete, send the .cei file to</p>

	<p>the organization that is performing validation or certification for the OEM. They would validate it, then either reject or return a .cei that has been stamped with a certification key. You would then reproduce this .cei file on CD-ROM or a compact flash card and distribute." (D, pg 5)</p> <p>"APCLoad compares the device SIM level against the .cei file certification key, and either allows the installation to proceed or prohibits it based on the outcome of this comparison." (D, pg. 2)</p> <p>"Security: To achieve a high level of reliability, WCEFA is carefully designed to:</p> <ul style="list-style-type: none"> - Control the installation of certified and tested software and drivers. - Limit the access of system services by installed module. - Monitor the proper execution of software..." (G, pg. 1)
<p>12 (d) distributing the second load module for use by at least one device in the second device class.</p>	<p>13 The <i>second load module</i> is the certified software from the OEM or Microsoft that will be run as part of the "Closed" <i>second device class</i>.</p> <p>14 "You may need to change ROM components after your device ships, either to fix a problem, or to provide enhanced functionality. For this purpose, the OEM is given a CEIBuild that adds a master key to a .cei file. CEI files stamped with this master key can be installed on an open, closed or a restricted platform." (D, pg. 3)</p> <p>15 "Trusted: The application is registered as a completely trusted module and allowed full access to the kernel APIs and WCEFA APIs. This mode is mostly likely reserved for MS and OEM applications and drivers. Note that applications and drivers included in ROM are automatically given trusted status." (I, pg.1)</p>
<p>21 References:</p> <p>22 [D] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnceauto/html/WinCAuto_SIM.asp</p> <p>23 [F] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/ceibuildrev_8.asp</p> <p>24 [G] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/securityrev.asp</p> <p>25 [H] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/securityrev_7.asp</p> <p>26 [I] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/apcguide/htm/reliabilityrev_3.asp</p> <p>27 [N] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wcedsn40/htm/cgconVerifyingSignature.asp</p> <p>28 [O] http://msdn.microsoft.com/library/default.asp?url=/library/en-us/wceoem/htm/os_secur_6.asp</p>	

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,157,721

4 5. 6	Product infringing: Windows Hardware Quality Lab certification services, and operating system products that support driver signature technology.
7 8 9	A software verifying method comprising:
10 11 12	Microsoft encourages manufacturers to have their device drivers tested and signed. For example, only signed drivers will ship "in-the-box." Also, Microsoft's driver ranking prefers signed drivers to unsigned drivers.
13 14 15	<p><u>Microsoft Web Page ... Can't Find a Test Category for Your Driver?</u></p>
16 17 18 19 20 21 22 23 24 25 26 27 28	<p>WHQL's long-term objective is to be able to digitally sign all drivers. Although we do not currently have test programs for certain driver types, such as specialized device drivers and software filter drivers, WHQL is investigating a long term solution to expand the categories of drivers tested under Windows 2000 and ultimately all Windows operating systems. We are already formulating a test program for anti-virus file system filters, and plan to address other file system filter drivers as soon as the initial program is in place.</p>
(a) testing a load module	<p>The driver will be tested for each version of the operating system it supports and against the device class specification that apply to the device's class.</p>
	<p>The driver package is a load module. A driver package contains one or more of the following files:</p>
	<p>A device setup information file (INF file)</p>
	<p>A driver catalog (.cat) file</p>
	<p>One or more optional co-installers</p>
	<p>Microsoft operates the Window Hardware Quality Lab, which tests drivers submitted by driver manufactures.</p>
	<p>The manufacturer can test their own driver using the Microsoft testing kit and submit the test results to WHQL when requesting a signature. Additionally, Microsoft or a testing facility working with Microsoft can perform the testing.</p>
	<p>having at least one specification associated</p>
	<p>The manufacturer-written INF file, which</p>

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>therewith,</p> <p>is part of the driver package, is a specification. Microsoft Windows drivers must have an INF file in order to be installed.</p>
the specification describing one or more functions performed by the load module;	<p>The INF Version section specifies its device class. One use of the device class is to identify the specific Windows compatibility specification that relate to the device class. These specifications will vary by device class in part because the function of each device can vary among class. The INF incorporates by reference the Microsoft supplied device class-specific specification by identifying its class in the INF.</p>
	<p>The INF can include operating system "decorating" to specify the operating system architecture, major and minor version, product and suite the driver is intended for and can further use this decorating to specify what operating systems for which it is not intended. Because the functionality of each of the operating systems may vary the driver must be tested for each applicable operating system.</p>
	<p><u>Qualification Service Policy Guide – Hardware Category Policies</u></p>
	<p>You must select the correct hardware category for your device. If you select the wrong hardware category for your device, your submission will fail. For example, if you have a storage/hard drive device, but you select storage/tape drive as your hardware category, your submission will fail.</p>
	<p>Windows XP HCT 10.0 Q & A – Windows XP Logos</p>
	<p>Q: Which "Designed for Windows XP" logos are available for my product?</p> <p>A: Devices and systems qualify for a "Designed for Windows" logo after passing testing with the appropriate WHQL test kit on all operating systems specified by the logo. "Designed for Windows" Logos for Device and System Programs lists which logos are available for each type of product.</p>
(b) verifying that the load module satisfies the specification; and	<p>The Microsoft WindowsXP Hardware Compatibility Test (HCT) kit version 10.0 includes the tests, test documentation, and</p>

	<p>1 submission processes that are required to 2 participate in the Microsoft Windows Logo 3 Program for Hardware for the Windows 4 XP Professional operating system. To 5 qualify to use the "Designed for Windows." 6 logo for hardware, products must pass 7 testing with the Microsoft Windows HCT 8 kit. The HCT kits are organized by 9 hardware type.</p> <p>10 As mentioned above, the manufacturer can 11 test their own driver using the Microsoft 12 testing kit and submit the test results to 13 WHQL when requesting a signature. 14 Additionally, Microsoft or a testing facility 15 working with Microsoft can perform the 16 testing.</p>
<p>17 (c) issuing at least one digital certificate 18 attesting to the results of the verifying step.</p>	<p>19 When a driver package passes WHQL 20 testing, WHQL generates a separate CAT 21 file containing a hash of the driver binaries 22 and other relevant information. WHQL 23 then digitally signs the CAT file using 24 Digital Signature cryptographic technology 25 and sends it to the vendor. Driver signing 26 does not change the driver binaries or the 27 INF file submitted for testing.</p> <p>28 Microsoft uses digital signatures for device drivers to let users know that drivers are compatible with Microsoft Windows XP, Windows 2000, and Windows Me. A driver's digital signature indicates that the driver was tested with Windows for compatibility and has not been altered since testing.</p>

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,157,721

3 CLAIM LANGUAGE	4 CLAIM OF INFRINGEMENT
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A first protected processing environment comprising: a first tamper resistant barrier having a first security level, and	A personal computer running Windows XP, Windows 2000, or Windows 2003 The tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate. The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
at least one arrangement within the first tamper resistant barrier that prevents the first protected processing environment from executing the same load module accessed by a second protected processing environment having a second tamper resistant barrier with a second security level different from the first security level.	The arrangement that prevents a load module from running in one PPE and not in another is the type and characteristics of a particular Load Module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.

1
 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 6,157,721

3 4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 7 18.	8 Infringing products include Office 2003 and 9 included applications, and Server 2003, 10 including Microsoft hosted RMS Service using 11 Passport
12 13 14	15 The first computing arrangement with a tamper 16 resistant barrier is the Office 2003 IRM client 17 environment and includes the signed digital 18 certificate identifying the user. 19 20 If the certificate is tampered with, or if certain, 21 sensitive IRM processes or modules are 22 debugged or tampered with, the system will 23 cease to operate. 24 The computing arrangement is being protected 25 from; for example, viruses and malicious code. 26 The first security level is the "Security Level" 27 which has been selected for a particular Office 28 Application, e.g., Word.
29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 8010 8011 8012 8013 8014 8015 8016 8017 8018 8019 8020 8021 8022 8023 8024 8025 8026 8027 8028 8029 8030 8031 8032 8033 8034 8035 8036 8037 8038 8039 8040 8041 8042 8043 8044 8045 8046 8047 8048 8049 8050 8051 8052 8053 8054 8055 8056 8057 8058 8059 8060 8061 8062 8063 8064 8065 8066 8067 8068 8069 8070 8071 8072 8073 8074 8075 8076 8077 8078 8079 8080 8081 8082 8083 8084 8085 8086 8087 8088 8089 8090 8091 8092 8093 8094 8095 8096 8097 8098 8099 80100 80101 80102 80103 80104 80105 80106 80107 80108 80109 80110 80111 80112 80113 80114 80115 80116 80117 80118 80119 80120 80121 80122 80123 80124 80125 80126 80127 80128 80129 80130 80131 80132 80133 80134 80135 80136 80137 80138 80139 80140 80141 80142 80143 80144 80145 80146 80147 80148 80149 80150 80151 80152 80153 80154 80155 80156 80157 80158 80159 80160 80161 80162 80163 80164 80165 80166 80167 80168 80169 80170 80171 80172 80173 80174 80175 80176 80177 80178 80179 80180 80181 80182 80183 80184 80185 80186 80187 80188 80189 80190 80191 80192 80193 80194 80195 80196 80197 80198 80199 80200 80201 80202 80203 80204 80205 80206 80207 80208 80209 80210 80211 80212 80213 80214 80215 80216 80217 80218 80219 80220 80221 80222 80223 80224 80225 80226 80227 80228 80229 80230 80231 80232 80233 80234 80235 80236 80237 80238 80239 80240 80241 80242 80243 80244 80245 80246 80247 80248 80249 80250 80251 80252 80253 80254 80255 80256 80257 80258 80259 80260 80261 80262 80263 80264 80265 80266 80267 80268 80269 80270 80271 80272 80273 80274 80275 80276 80277 80278 80279 80280 80281 80282 80283 80284 80285 80286 80287 80288 80289 80290 80291 80292 80293 80294 80295 80296 80297 80298 80299 80300 80301 80302 80303 80304 80305 80306 80307 80308 80309 80310 80311 80312 80313 80314 80315 80316 80317 80318 80319 80320 80321 80322 80323 80324 80325 80326 80327 80328 80329 80330 80331 80332 80333 80334 80335 80336 80337 80338 80339 80340 80341 80342 80343 80344 80345 80346 80347 80348 80349 80350 80351 80352 80353 80354 80355 80356 80357 80358 80359 80360 80361 80362 80363 80364 80365 80366 80367 80368 80369 80370 80371 80372 80373 80374 80375 80376 80377 80378 80379 80380 80381 80382 80383 80384 80385 80386 80387 80388 80389 80390 80391 80392 80393 80394 80395 80396 80397 80398 80399 80400 80401 80402 80403 80404 80405 80406 80407 80408 80409 80410 80411 80412 80413 80414 80415 80416 80417 80418 80419 80420 80421 80422 80423 80424 80425 80426 80427 80428 80429 80430 80431 80432 80433 80434 80435 80436 80437 80438 80439 80440 80441 80442 80443 80444 80445 80446 80447 80448 80449 80450 80451 80452 80453 80454 80455 80456 80457 80458 80459 80460 80461 80462 80463 80464 80465 80466 80467 80468 80469 80470 80471 80472 80473 80474 80475 80476 80477 80478 80479 80480 80481 80482 80483 80484 80485 80486 80487 80488 80489 80490 80491 80492 80493 80494 80495 80496 80497 80498 80499 80500 80501 80502 80503 80504 80505 80506 80507 80508 80509 80510 80511 80512 80513 80514 80515 80516 80517 80518 80519 80520 80521 80522 80523 80524 80525 80526 80527 80528 80529 80530 80531 80532 80533 80534 80535 80536 80537 80538 80539 80540 80541 80542 80543 80544 80545 80546 80547 80548 80549 80550 80551 80552 80553 80554 80555 80556 80557 80558 80559 80560 80561 80562 80563 80564 80565 80566 80567 80568 80569 80570 80571 80572 80573 80574 80575 80576 80577 80578 80579 80580 80581 80582 80583 80584 80585 80586 80587 80588 80589 80590 80591 80592 80593 80594 80595 80596 80597 80598 80599 80600 80601 80602 80603 80604 80605 80606 80607 80608 80609 80	

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,157,721

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
34.																						

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,157,721

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
34.	Product Infringing: Microsoft Common Language Runtime and ASP.NET
A protected processing environment comprising: a first tamper resistant barrier having a first security level,	TAMPER RESISTANT BARRIER The first tamper resistant barrier is the application domain in the CLR. The runtime hashes the contents of each file loaded into the application domain and compares it with the hash value in the manifest. If two hashes don't match, the assembly fails to load.[1] <i>Also "Code running in one application cannot directly access code or resources from another application. The common language runtime enforces this isolation by preventing direct calls between objects in different application domains. Objects that pass between domains are either copied or accessed by proxy."</i> [2]
	SECURITY LEVELS The security levels of the application domain if different by setting the trust level assigned to an outside application using the "trust" element in the web.config for the ASP.NET application. Syntax- <trust level="Full/High/Low/None" originUrl="url"/> Example- <trust level="High" originUrl="http://www.SomeOtherCompany.com/default.aspx"/> [7]
a first secure execution space, and at least one arrangement within the first tamper resistant barrier that prevents the first secure execution space from executing the same executable accessed by a second secure execution space having a second tamper resistant barrier with a second security level different from the first security level.	The application domain is the execution space for a particular application. The second secure execution space is another application domain that has a different trust level for an outside application. If second app domain gives Full trust to the outside application; whereas the first one doesn't, the first app domain won't be able to execute the application that requires full trust permission.
	References: [1]

1	www.microsoft.com/germany/ms/msdnbiblio/do tnetrk/doc/assembly.doc
2	[2] msdn.Microsoft.com/library/en- us/cpguide/html/ cpconapplicationdomainsoverview.asp?frame=tr ue
3	[7] LaMacchia,etc, <u>.NET Framework Security</u> , Addision-Wesley, 2002

6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

1
2 INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,157,721

4 CLAIM LANGUAGE	4 CLAIM OF INFRINGEMENT
5 34.	6 Product Infringing: Products containing 7 Microsoft Common Language Runtime or 8 Compact Common Language Runtime and 9 products implementing the Common Language 10 Infrastructure specification.
11 A protected processing environment 12 comprising: 13 a first tamper resistant barrier having a first 14 security level,	15 Microsoft Common Language Runtime and 16 .NET Framework SDK: 17 TAMPER RESISTANT BARRIER 18 The first tamper resistant barrier is the 19 application domain in the CLR. The runtime 20 hashes the contents of each file loaded into the 21 application domain and compares it with the 22 hash value in the manifest. If two hashes don't 23 match, the assembly fails to load. [1] 24 Also " <i>Code running in one application cannot 25 directly access code or resources from another 26 application. The common language runtime 27 enforces this isolation by preventing direct 28 calls between objects in different application 29 domains. Objects that pass between domains 30 are either copied or accessed by proxy.</i> " [2]
31 SECURITY LEVELS	32 Application domains have different security 33 levels by setting security policy of the 34 application domain programmatically. [3] 35 " <i>It has different security based on code-based 36 security model of .NET. Administrators and 37 hosts use code-access security to decide what 38 code can do, based on characteristics of the 39 code itself, regardless of what user is executing 40 the code. The code characteristics are called 41 evidence and can include the Web site or zone 42 from which the code was downloaded, or the 43 digital signature of the vendor who published 44 the code.</i> "
45	46 " <i>When the security manager needs to 47 determine the set of permissions that an 48 assembly is granted by security policy, it starts 49 with the enterprise policy level. Supplying the 50 assembly evidence to this policy level will 51 result in the set of permissions granted from 52 that policy level. The security manager 53 typically continues to collect the permission 54 sets of the policy levels below the enterprise 55 policy [including the app domain] in the same</i> "

	<p>fashion. These permission sets are then intersected to generate the policy system permission set for the assembly. All levels must allow a specific permission before it can make it into the granted permission set for the assembly.”</p> <p>Example of granted permission sets from a policy –</p> <p>Condition: All code, Permission Set: Nothing</p> <p>Condition: Zone: Internet, Permission Set: Internet Condition: URL: www.monash.edu.au, Permission Set: MonashPSet</p> <p>Condition: Strong Name: m-Commerce, Permission Set: m-CommercePSet [4]</p> <p>Another difference in security levels can be whether the verification process is turned off or on, “Managed code must be passed through a verification process before it can be run (unless the administrator has granted permission to skip the verification). The verification process determines whether the code can attempt to access invalid memory addresses or perform some other action that could cause the process in which it is running to fail to operate properly. Code that passes the verification test is said to be type-safe. The ability to verify code as type-safe enables the common language runtime to provide as great a level of isolation as the process boundary, at a much lower performance cost.” [5]</p>
19 20 21 22 23 24	<p>a first secure execution space, and</p> <p>at least one arrangement within the first tamper resistant barrier that prevents the first secure execution space from executing the same executable accessed by a second secure execution space having a second tamper resistant barrier with a second security level different from the first security level.</p>
25 26 27 28	<p>The application domain is the execution space for a particular application.</p> <p>The second secure execution space is another application domain that has a different security policy than the first.</p> <p>If second app domain’s security policy doesn’t give any permission to code from internet zone, but first app domain does, then the code would run in first app domain and not in second.[6]</p> <p>References:</p> <p>[1] www.microsoft.com/germany/ms/msdnbiblio/dotnetrk/doc/assembly.doc</p> <p>[2] msdn.Microsoft.com/library/en-us/cpguide/html/cpconapplicationdomainsoverview.asp?frme=true</p>

1	
2	[3] LaMacchia,etc, <u>.NET Framework Security</u> , Addison-Wesley, 2002, p.113
3	[4] Watkins, Demien, "An Overview of Security in the .NET Framework", from MSDN Library, January 2002
4	[5] same as [2]
5	[6] msdn.Microsoft.com/library/en-us/cpguide/html/cpconapplicationdomainlevelsecuritypolicy.asp?frame=true
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,157,721

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
38.		Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
A method for protecting a first computing arrangement surrounded by a first tamper resistant barrier having a first security level, the method including:		The first computing arrangement surrounded by a tamper resistant barrier is the Office 2003 IRM client environment and includes the signed digital certificate identifying the user. If the certificate is tampered with, or if certain, sensitive IRM processes or modules are debugged or tampered with, the system will cease to operate.
		The first security level is the "Security Level" which has been selected for a particular Office Application, e.g., Word.
preventing the first computing arrangement from using the same software module accessed by a second computing arrangement having a second tamper resistant barrier with a second security level different from the first security level.		The computing arrangement that prevents a software module from running in one computing arrangement and not in another is the type and characteristics of the particular software module (VBA program within a document or add-in); i.e., signed, script author, code capabilities, etc., and the "Security Level" settings.

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,185,683

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 2.	8 Product Infringing: Windows Media Rights Manager and Windows Media Player
9 A system including:	
10 (a) a first apparatus including,	11 Consumer's computer, as shown in WMRM SDK
12 (1) user controls,	13 Consumer's computer, as shown in WMRM SDK
14 (2) a communications port,	15 Consumer's computer, as shown in WMRM SDK
16 (3) a processor,	17 Consumer's computer, as shown in WMRM SDK
18 (4) a memory storing:	19 Consumer's computer, as shown in WMRM SDK
20 (i) a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus;	21 Secure container (packaged Windows Media file), received by consumer's computer from "Content provider" (WMRM SDK, Step 3), which contains encrypted governed item ("Encrypted content")
22 (ii) a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item, the first secure container rule [sic], the first secure container rule having been received from a third apparatus different from said second apparatus; and	23 Rights portion of signed license, received by consumer's computer from "License issuer" (WMRM SDK, Step 9)
24 (5) hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	25 Windows Media Player and Windows Media Rights Manager
26 (6) a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	27 1st and 2nd rules consist of any two valid rules as specified in the Window Media Rights Manager SDK; protected processing environment includes Windows Media Rights Manager and Windows processes for protecting operation of Windows Media Rights Manager. Licenses can be used to convey multiple rules.
28 (7) hardware or software used for	29 Any hardware or software employed in

1	transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	transmitting Windows Media files, including for example consumer's computer's communication port and Windows Media Player (WMRM SDK, Step 3)
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	2. Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing: a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus; a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item, the first secure container rule, the first secure container rule having been received from a third apparatus different from said second apparatus; and hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers; a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of
	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
	An encrypted IRM-governed email received from a remote computer. The encrypted IRM-governed email contains an encrypted IRM-governed email message.
	The first secure container rule is received from the RMS server in the form of a use license. This use license contains rules generated by the RMS server specifically for the user (or user's group)
	The RM-enabled device contains hardware or software for receiving and opening secure emails. The secure email has the capacity to contain an IRM-governed email message, with a rule being associated with each email. The rules associated with the secure emails are rules that come as part of the original email as well as rules that come back from the RMS.
	Protected information on the RM-enabled device is protected by the use of at least cryptographic techniques. The rule governing the email works together with an additional rule to determine what access to or use (if any) are allowed with respect to the IRM-governed email message. For example, the additional rule may be

1	access to or use of a governed item contained in a secure container; and	received together with the rule in the use license.
2		
3	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	The device includes hardware or software used for transmitting or receiving secure emails. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM-governed emails to/from other devices.
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 2.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
7 A system including: 8 a first apparatus including, 9 user controls, 10 a communications port, 11 a processor, 12 a memory storing: 13 a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; the first secure container having been received from a second apparatus;	A device with user controls, a communications port, a processor, and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
14	The first secure container is an encrypted IRM-protected document. This encrypted IRM-governed document is, for example, received from a remote computer, as an attachment to an IRM-governed email or downloaded from a document server or web site.
15	The first secure container rule is received from the RMS server in the form of a use license. This use license contains rules generated by the RMS server specifically for the user (or user's group).
16	The RM-enabled device contains hardware or software for receiving and opening secure documents. The secure documents have the capacity to contain IRM-governed content, with a rule being associated with each secure document.
17	The rules associated with said secure documents are the rules that come as part of the originally received document as well as rules that come back from the RMS server.
18	Protected information on the RM-enabled device is protected by the use of at least cryptographic technique.
19	The rule governing the document works
20	
21	
22	
23	
24	
25	
26	
27	
28	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	together with an additional rule to determine what access to or use (if any) are allowed with respect to the IRM-governed document. For example, the additional rule may be associated with an email to which the document was attached, or received together with the rule in the use license.
	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	The device includes hardware or software used for transmitting or receiving secure documents. For example, RM-enabled OUTLOOK is designed to transmit and receive to/from other devices emails with IRM-governed documents attached thereto.

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 3.	Infringing products include Office 2003 and 7 included applications, and Server 2003, 8 including Microsoft hosted RMS Service using 9 Passport
10 A system including: 11 a first apparatus including, 12 user controls, 13 a communications port, 14 a processor, 15 a memory storing: 16 a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
17 18 19 20 21 22 23 24 25 26 27 28 a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	The first secure container containing a governed item is an IRM protected email. Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
22 23 24 25 26 27 28 hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The rule governing the email (a first secure container rule) governs said first secure container governed item.
22 23 24 25 26 27 28 a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for	The second secure container is the IRM protected attachment's derived license request object. The license request object contains the Publishing license and a signed digital certificate.
22 23 24 25 26 27 28 hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
22 23 24 25 26 27 28 a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques.
	The rules governing the email itself (first

1	applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	secure container rule) and the rules governing the attachment work together to determine what access to or use (if any) will be allowed with respect to the governed item.
2		
3		
4	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	IRM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
 2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 6,185,683

3 4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 7 3. 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 2 Infringing products include Office 2003 and 3 included applications, and Server 2003, 4 including Microsoft hosted RMS Service using 5 Passport 6 7 A system including: 8 a first apparatus including, 9 user controls, 10 a communications port, 11 a processor, 12 a memory storing: 13 a first secure container containing a governed 14 item, the first secure container governed item 15 being at least in part encrypted; 16 a first secure container rule at least in part 17 governing an aspect of access to or use of said 18 first secure container governed item; and 19 a second secure container containing a digital 20 certificate; 21 hardware or software used for receiving and 22 opening secure containers, 23 said secure containers each including the 24 capacity to contain a governed item, a secure 25 container rule being associated with each of 26 said secure containers: 27 a protected processing environment at least in 28 part protecting information contained in said 29 protected processing environment from
	3. Infringing products include Office 2003 and 4 included applications, and Server 2003, 5 including Microsoft hosted RMS Service using 6 Passport 7 A device with user controls, a communications 8 port, a processor and memory. For example, 9 the user controls may be a keyboard and 10 mouse, the communications port may be a NIC 11 card with an Ethernet port, the processor may 12 be a CPU, and the memory may be a hard-drive 13 or RAM. 14 15 The first secure container containing a 16 governed item is an IRM protected document, 17 which is an attachment within an IRM 18 protected email message. The governed item is 19 the document's content. 20 Both the email message and attachment are 21 encrypted and have associated usage rules due 22 to IRM protection. 23 A use license for the IRM protected document 24 specifies rules governing access to or use of 25 said first secure container governed item. 26 The second secure container is the IRM 27 protected email message. 28 The IRM protected attachment includes a 29 publishing license and an owner certificate, 29 both of which are signed XML digital 29 certificates. 30 The attachment (including embedded 31 certificates) is contained within the IRM 32 protected email message (said second secure 33 container). 34 The RM (IRM) enabled computer has software 35 for receiving and opening secure containers. 36 The IRM secure containers have capacity to 37 contain a governed item, with a secure 38 container rule being associated with each of 39 said secure containers. 40 Protected information on the RM-enabled 41 computer is protected by the use of at least 42 cryptographic techniques.

1	tampering by a user of said first apparatus,	
2	said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	The rules governing the attachment (first secure container rule) and the rules governing the email message (second secure container rule) work together to determine what access to or use (if any) will be allowed with respect to the governed item.
6	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
8	4. A system as in claim 3,	
9	said memory storing a rule associated with said second secure container, said rule associated with said second secure container at least in part governing at least one aspect of access to or use of said digital certificate.	All parts of the attachment (including embedded signed XML licenses/certificates) are protected by the enclosing email message and governed by the associated email rules (second secure container rule).
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 5.	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
7 A system including: 8 a first apparatus including, 9 user controls, 10 a communications port, 11 a processor, 12 a memory storing: 13 a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
14 15 a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and	first secure container containing a governed item is an IRM protected email. Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
16 17 a second secure container containing a digital signature, the second secure container being different from said first secure container;	The rule governing the email (a first secure container rule) governs said first secure container governed item. The second secure container is the IRM protected attachment's derived license request object. The license request object contains the Publishing license and a signed digital certificate.
18 19 hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
20 21 a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus,	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques.
22 23 said protected processing environment including hardware or software used for applying said first secure container rule and a	The rules governing the email itself (first secure container rule) and the rules governing

1	second secure container rule in combination to 2 at least in part govern at least one aspect of 3 access to or use of a governed item contained 4 in a secure container; and	5 the attachment will work together to determine 6 what access to or use (if any) will be allowed 7 with respect to the governed item.
8	hardware or software used for transmission of 9 secure containers to other apparatuses or for 10 the receipt of secure containers from other 11 apparatuses.	12 RM-enabled applications, e.g., OUTLOOK, are 13 designed to transmit and receive RM secured 14 containers to/from other computers.
15	16	17
18	19	20
21	22	23
24	25	26
27	28	

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	6 Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport A system including: a first apparatus including, user controls, a communications port, a processor, a memory storing: a first secure container containing a governed item, the first secure container governed item being at least in part encrypted; a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and a second secure container containing a digital signature, the second secure container being different from said first secure container; hardware or software used for receiving and opening secure containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers; a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said first apparatus, said protected processing environment including hardware or software used for applying said first secure container rule and a
	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse; the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
	first secure container containing a governed item is an IRM protected email. Both the email and attachment are IRM protected, each having their own rules, each being encrypted.
	The rule governing the email (a first secure container rule) governs said first secure container governed item.
	The second secure container is the IRM email attachment. This attachment and its publishing license are signed.
	The RM (IRM) enabled computer has software for receiving and opening secure containers. The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
	Protected information on the RM-enabled computer is protected by the use of at least cryptographic techniques.
	The rules governing the email itself (first secure container rule) and the rules governing

1	second secure container rule in combination to	the attachment work together to determine what
2	at least in part govern at least one aspect of	access to or use (if any) will be allowed with
3	access to or use of a governed item contained	respect to the governed item.
4	in a secure container; and	
5	hardware or software used for transmission of	RM-enabled applications, e.g., OUTLOOK, are
	secure containers to other apparatuses or for	designed to transmit and receive RM secured
	the receipt of secure containers from other	containers to/from other computers.
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 6,185,683**

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
5. 7	Infringing products include Office 2003 and included applications, and Server 2003, including Microsoft hosted RMS Service using Passport
8 A system including: 9 a first apparatus including, 10 user controls, 11 a communications port, 12 a processor, 13 a memory storing: 14 a first secure container containing a governed item, the first secure container governed item being at least in part encrypted;	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
15	The first secure container containing a governed item is an IRM protected document, which is an attachment within an IRM protected email message. The governed item is the document's content.
16	Both the email message and attachment are encrypted and have associated usage rules due to IRM protection.
17 a first secure container rule at least in part governing an aspect of access to or use of said first secure container governed item; and 18 a second secure container containing a digital signature, the second secure container being different from said first secure container;	A use license for the IRM protected document specifies rules governing access to or use of said first secure container governed item.
19	The second secure container is the IRM protected email message.
20	The IRM protected attachment includes a publishing license and an owner certificate, both of which are signed XrML digital certificates.
21	The attachment (including embedded certificates) is contained within the IRM protected email message (said second secure container).
22	The RM (IRM) enabled computer has software for receiving and opening secure containers.
23	The IRM secure containers have capacity to contain a governed item, with a secure container rule being associated with each of said secure containers.
24	Protected information on the RM-enabled computer is protected by the use of at least
25	
26	
27	
28	

1	protected processing environment from tampering by a user of said first apparatus,	cryptographic techniques.
2		
3	said protected processing environment including hardware or software used for applying said first secure container rule and a second secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item contained in a secure container; and	The rules governing the attachment (first secure container rule) and the rules governing the email message (second secure container rule) work together to determine what access to or use (if any) will be allowed with respect to the governed item.
4		
5		
6	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses.	RM-enabled applications, e.g., OUTLOOK, are designed to transmit and receive RM secured containers to/from other computers.
7		
8		
9	6. A system as in claim 5, said memory storing a rule at least in part governing an aspect of access to or use of said digital signature.	All parts of the attachment (including embedded signed XML licenses/certificates) are protected by the enclosing email message and governed by the associated email rules (second secure container rule).
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 28.	7 Infringing products include Office 2003 and 8 included applications, and Server 2003, 9 including Microsoft hosted RMS Service using 10 Passport
11 A system including: 12 a first apparatus including; 13 user controls, 14 a communications port, 15 a processor, 16 a memory containing a first rule, 17 18 hardware or software used for receiving and 19 opening secure containers, 20 said secure containers each including the 21 capacity to contain a governed item, a secure 22 container rule being associated with each of 23 said secure containers; 24 a protected processing environment at least in 25 part protecting information contained in said 26 protected processing environment from 27 tampering by a user of said first apparatus, 28 said protected processing environment including hardware or software used for applying said first rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item; and	1 A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM. 2 The first rule governs use of an IRM protected 3 document (e.g., an IRM rule permitting a 4 document to be read by specified users or 5 barring access to IRM-governed information 6 from specified users, applications, or other 7 principals). 8 The RM-enabled device contains hardware or 9 software for receiving and opening secure 10 containers. 11 The secure email has the capacity to contain an 12 IRM-governed email message, with a rule 13 being associated with each email. 14 Protected information on the RM-enabled 15 device is protected by the use of at least 16 cryptographic techniques. 17 The secure container rule is an IRM rule 18 governing access to the IRM protected 19 document (e.g., a rule permitting editing by 20 specified users). 21 The rule governing the email works together 22 with an additional rule to determine what 23 access to or use (if any) are allowed with 24 respect to the IRM-governed email message 25 (the document's content). For example, the 26 additional rule may be received together with 27 the rule in the use license, may be associated 28 with a publishing license, may be associated with user certification, revocation lists, or exclusion policies, or may be received from any other source.
hardware or software used for transmission of	The device includes hardware or software used

1	secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	for transmitting or receiving secure containers. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM-governed emails to/from other devices.
2	a second apparatus including:	
3	user controls,	A device with user controls, a communications port, a processor and memory. For example, the user controls may be a keyboard and mouse, the communications port may be a NIC card with an Ethernet port, the processor may be a CPU, and the memory may be a hard-drive or RAM.
4	a communications port,	
5	a processor,	
6	a memory containing a second rule,	The second rule governs use of an IRM protected document (e.g., an IRM rule permitting a document to be read by specified users or barring access to IRM-governed information from specified users, applications, or other principals).
7		
8		
9		
10		
11	hardware or software used for receiving and opening secure containers,	The RM-enabled device contains hardware or software for receiving and opening secure containers.
12		
13	said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	The secure email has the capacity to contain an IRM-governed email item, with a rule being associated with each secure containers.
14		
15	a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said apparatus,	Protected information on the RM-enabled device is protected by the use of at least cryptographic technique.
16		
17	said protected processing environment including hardware or software used for applying said second rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item;	The secure container rule is an IRM rule governing access to the IRM protected document (e.g., a rule permitting editing by specified users).
18		
19		
20		
21		
22		
23		
24		
25	hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	The device includes hardware or software used for transmitting or receiving secure containers. For example, RM-enabled OUTLOOK is designed to transmit and receive encrypted IRM-governed emails to/from other devices.
26		
27	an electronic intermediary, said intermediary including a user rights authority clearinghouse.	The RMS Server (Microsoft hosted or otherwise) constructs a 'use license' specific to a piece content and targets it to a specific user.
28		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>29. A system as in claim 28, said user rights authority clearinghouse operatively connected to make rights available to users.</p> <p>The RMS server sends <i>use licenses</i> to users through a communications port, e.g., Ethernet, serial, satellite, "the internet" These use licenses include rights.</p> <p>The clearing functionality of the RMS is operatively connected to the RMS server.</p>
---	---

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,185,683

5 28.	6 Product Infringing: Windows Media Rights 7 Manager and Windows Media Player
8 A system including:	9
10 (a) a first apparatus including;	11 Consumer's computer, as shown in WMRM 12 SDK
13 (1) user controls,	14 Consumer's computer, as shown in WMRM 15 SDK
16 (2) a communications port,	17 Consumer's computer, as shown in WMRM 18 SDK
19 (3) a processor,	20 Consumer's computer, as shown in WMRM 21 SDK
22 (4) a memory containing a first rule,	23 Memory is in the consumer's computer, first 24 rule is a right received as part of a signed 25 license (WMRM SDK, Step 9)
26 (5) hardware or software used for 27 receiving and opening secure 28 containers, said secure containers each including the capacity to contain a governed item, a secure container rule being associated with each of said secure containers;	29 Consumer's computer receives Windows 30 Media file (secure container) via 31 communications port (WMRM SDK, Step 3) 32 and applies secure container rule or rules via 33 Windows Media Player and Windows Media 34 Rights Manager.
35 (6) a protected processing environment at 36 least in part protecting information 37 contained in said protected processing 38 environment from tampering by a 39 user of said first apparatus, said 40 protected processing environment 41 including hardware or software used 42 for applying said first rule and a 43 secure container rule in combination 44 to at least in part govern at least one 45 aspect of access to or use of a 46 governed item; and	47 Processing environment includes Windows 48 Media Rights Manager and Windows 49 processes for protecting operation of Windows 50 Media Rights Manager
51 (7) hardware or software used for 52 transmission of secure containers to 53 other apparatuses or for the receipt of 54 secure containers from other 55 apparatuses; and	56 Hardware or software employed in transmitting 57 Windows Media files, including for example 58 consumer's computer's communication port 59 and Windows Media Player (WMRM SDK, 60 Step 3)
61 (b) a second apparatus including:	62 2nd consumer's computer
63 (1) user controls,	64 2nd consumer's computer
65 (2) a communications port,	66 2nd consumer's computer
67 (3) a processor,	68 2nd consumer's computer
69 (4) a memory containing a second rule,	70 Memory is in the 2nd consumer's computer, 71 first rule is a Right received as part of a signed 72 license (WMRM SDK, Step 9)
73 (5) hardware or software used for 74 receiving and opening secure 75 containers, said secure containers 76 each including the capacity to contain	77 2nd consumer's computer receives Windows 78 Media file (secure container) via 79 communications port (WMRM SDK, Step 3) 80 and applies secure container rule or rules via

1	a governed item, a secure container rule being associated with each of said secure containers;	Windows Media Player and Windows Media Rights Manager.
2	(6) a protected processing environment at least in part protecting information contained in said protected processing environment from tampering by a user of said apparatus; said protected processing environment including hardware or software used for applying said second rule and a secure container rule in combination to at least in part govern at least one aspect of access to or use of a governed item;	Processing environment includes Windows Media Rights Manager and Windows processes for protecting operation of Windows Media Rights Manager; processing environment applies multiple rules in combination
3	(7) hardware or software used for transmission of secure containers to other apparatuses or for the receipt of secure containers from other apparatuses; and	Hardware or software employed in transmitting Windows Media files, including for example 2 nd consumer's computer's communication port and Windows Media Player (WMRM SDK, Step 3)
4	(c) an electronic intermediary, said intermediary including a user rights authority clearinghouse.	License Issuer
5	29. A system as in claim 28, said user rights authority clearinghouse operatively connected to make rights available to users.	License Issuer, operatively connected to consumer's computer (WMRM SDK, Step 9)

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

3 CLAIM LANGUAGE	4 CLAIM OF INFRINGEMENT
5 56.	6 Infringing products include Office 2003 and 7 included applications, and Server 2003, 8 including Microsoft hosted RMS Service using 9 Passport
10 A method of securely delivering an item, 11 including the following steps: 12 performing an authentication step;	13 The RM-enabled application, e.g., Word, 14 OUTLOOK, PowerPoint, etc., must be 15 authenticated before it is allowed access to or 16 use of the content.
17 associating a digital signature with said item; 18 incorporating said item into a first secure 19 electronic container, said item being at least in 20 part encrypted while in said container, 21 said incorporation occurring in an apparatus 22 containing a first protected processing 23 environment, said protected processing 24 environment at least in part protecting 25 information contained in said protected 26 processing environment from tampering by a 27 user of said apparatus;	28 The RM protected content is signed. 29 RM-protected content is packaged with rules 30 and encrypted. 31 Protected information on the RM enabled 32 computer is protected by the use of at least 33 cryptographic techniques.
34 in said protected processing environment, 35 associating a first rule with said first secure 36 electronic container, said first rule at least in 37 part governing at least one aspect of access to 38 or use of said item; 39 authenticating an intended recipient of said 40 item;	41 The IRM-protected document (said item) has 42 an associated rule or rules.
43 transmitting said first secure electronic 44 container and said first rule to said intended 45 recipient; and 46 using a second protected processing 47 environment, providing said intended recipient 48 access to at least a portion of said item, 49 said access being governed at least in part by 50 said first rule and by a second rule present at 51 said intended recipient's site.	52 A recipient of IRM-protected content must be 53 authenticated before being allowed access to or 54 use of the content. 55 The document is sent via IRM-protected email 56 as an attachment. 57 The email is received at another IRM-enabled 58 computer. 59 The first said rule is the rule(s) associated with 60 the attached document, and the second rule is 61 the rule(s) received that govern the email itself.
62	63
64	65
66	67
68	69

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3
4 INTERTRUST INFRINGEMENT CHART
5 FOR U.S. PATENT NO. 6,185,683

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	126. A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus; associating authentication information with said item; incorporating said item into a secure digital container; associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;	Product Infringing: Windows Hardware Quality Labs Authentication services, Windows operating Systems (such as Windows XP) that support the driver signing features, and any product using Driver Signing feature Microsoft's Window Hardware Quality Labs (WHQL) (first apparatus) receiving driver package (item) from independent hardware vendor (IHV) or any driver developer (second apparatus). The signature information of a security catalog file (see next element of claim) names Microsoft as the publisher. WHQL's signature is intended to signify that a driver has complied with Microsoft's Windows compatibility and/or Secure Audio Path (SAP) specifications. The hashes of the files making up the driver package are included in the signed security catalog file for the driver package. The catalog file makes the driver package a secure digital container. Driver developers specify rules in an INF file that govern the installation and/or use of the driver. For example, as specified in the INF, the installation events will vary based on the user's operating system version, which includes architecture, product type and suite. The INF logging rules and can further specify security rules that are evaluated when the driver is used. White Paper – Operating-System Versioning for Drivers under Windows XP Setup selects the [Models] section to use based on the following rules: If the INF contains [Models] sections for several major or minor operating system version numbers, Setup uses the section with the highest version numbers that are not higher than the operating system version on which the installation is taking place.
---	---	---

1 If the INF [Models] sections that match the
2 operating system version also include
3 product type decorations, product suite
4 decorations, or both, then Setup selects the
running operating system.

5 Suppose, for example, Setup is running on
6 Windows XP Professional (which is
7 operating system version 5.1), and it finds
the following entry in a [Manufacturer]
section:

8 %FooCorp% = FooMfg, NT, NT.5, NT.5.5,
9 NT....0x80

10 In this case, Setup will look for a [Models]
11 section named [FooMfg.NT.5]. Setup will
12 also use the [FooMfg.NT.5] section if it is
running on a Datacenter version of
Windows .NET Server, because a specific
major/minor version takes precedence over
the product type and suite mask.

13 For example, to create an INF that is
14 intended for use only on Windows XP, the
15 INF file could contain the following:

16 [Manufacturer]
17 "Foo Corp." = FooMfg, NT.5.1, NT.5.2
[FooMfg.NT.5.1]
"Foo Device" = FooDev, *FOO1234

18 Note the omission of the undecorated
19 [FooMfg] section, as well as the omission
20 of the [FooMfg.NT.5.2] section. This INF
file would appear to be "empty" on any
operating system other than Windows XP.

21 Access Control List Rules

22 XP DDK – Tightening File-Open 23 Security in a Device INF File

24 For Microsoft Windows 2000 and later,
25 Microsoft tightened file-open security in
the class installer INFs for certain device
classes, including CDROM, DiskDrive,
FDC, FloppyDisk, HDC, and
SCSIAdapter.

26 If you are unsure whether the class installer
27 for your device has tightened security on
file opens, you should tighten security by
28 using the device's INF file to assign a value
to the **DeviceCharacteristics** value name
in the registry. Do this within an *add-*

		<p><i>registry-section</i>, which is specified using the INF AddReg directive.</p>
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;	Microsoft, IHV, driver developer or any other party distributing signed driver packages transmitting the driver package to user (third apparatus). Since the driver package includes the INF file, it will include the first rule. The protected processing environment (PPE) is Windows operating system with its pertinent services such as Windows File Protection, signature and cryptographic functions, Plug and Play and Set-up and their related default and modifiable policies. The PPE checks for signatures on driver packages and detects situations when the driver package's signature does not match the driver package.
		Additionally, the Digital Rights Manager (DRM) components (kernel and client) will contribute to making the third apparatus a PPE when the SAP functionality is invoked. [That is, when SAP is required, an additional signature is checked to verify that the driver is SAP compliant and that it hasn't been tampered with.]
	said third apparatus receiving said secure digital container and said first rule;	The end-user receiving the driver package.
	said third apparatus checking said authentication information; and	A step in the Plug and Play/Setup driver installation process checks signature at installation. Additionally, the DRM component will check the DRM signature when invoking DRM functionality.
		<p><u>White Paper – Driver Signing for Windows</u></p> <p>During driver installation, Windows compares the hashes contained in the driver's CAT file with the computed hash of the driver binaries to determine whether the binaries have changed since the CAT file was created. If a driver fails the signature check or there is no CAT file, what happens next depends on the driver signing policy in effect on the user's system:</p>
		<p>If the policy is set to Ignore, the driver installs silently, with no message to the user.</p>
		<p>If the policy is set to Warn, a message warns the user the driver is unsigned, which means that it has not passed WHQL</p>

	<p>1 testing and might cause problems. The 2 Warn dialog box gives an administrative 3 user the option to override the warning and 4 install an unsigned driver anyway. 5</p> <p>If the policy is set to Block, the system 6 displays a message that informs the user 7 that the driver cannot be installed because 8 it is not digitally signed.</p>
<p>6 said third apparatus performing at least one 7 action on said item, said at least one action 8 being governed, at least in part, by said 9 first rule and by a second rule resident at 10 said third apparatus prior to said receipt of 11 said secure digital container and said first 12 rule, said action governance occurring at 13 least in part in said protected processing 14 environment.</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>The action would be installing and/or using the driver. For example, installation policies govern the actions (ignore, warn or block) taken based on whether a driver is signed or not and these policies (rule) are resident on the third apparatus. Another rule is the "ranking" of available drivers when selecting a driver to install. This ranking process includes whether a driver is signed or not. Another rule is the security access rules that the class installer that will be used to install the device has.</p> <p>In the case of DRM, the content will have associated rules governing its use in a SAP- compliant environment. These rules (the content license) can be resident at the third apparatus particularly in the case when a user is installing a new (SAP-compliant) device that will render previously acquired content or in the case that acquired content cannot be rendered until the user installs required drivers.</p> <p>For example, when installing:</p> <p>The XP driver ranking process and the modifiable default related to signature state of the driver act as the second rule.</p> <p>The driver will be installed only if the first and second rules validate.</p> <p><u>Operating-System Versioning for Drivers under Windows XP</u></p> <p><i>Default System Policy for Unsigned Drivers</i></p> <p>If the user installs an unsigned driver for a designated device class from disk or from another web site, Windows XP/Windows 2000 displays a warning that the driver is unsigned, thus helping to preserve the integrity of the released system. However, by default, Windows XP/Windows 2000</p>

	<p>does not block installation of unsigned drivers, so vendors can get urgent hot-fixes to customers while waiting for WHQL to test the fix.</p> <p>In Windows XP, the default driver signing policy can be changed through the Hardware tab of the System applet on the Control Panel. A user can change the policy to be more restrictive, but not less restrictive on a per-user basis (that is, a user can change Warn to Block, but not to Ignore). An administrator can change the policy to be either more restrictive or less restrictive for all users on the system by checking "Apply the setting as system default."</p> <p><i>Driver Ranking</i></p> <p>Under Windows XP, the driver ranking strategy has been modified as follows:</p> <p>If an INF file is unsigned, and if neither the [Models] section nor the [DDInstall] section is decorated with an NT-specific extension, the INF file is considered "suspect" and its rank is shifted into a higher range (that is, worse) than all hardware and compatible rank matches of INF files for which one (or both) of those criteria are met.</p> <p>The new ranking ranges will now be:</p> <p>0 – 0xFFFF (DRIVER_HARDWAREID_RANK) : "trusted" hardware-ID match 0x1000 – 0x3FFF : "trusted" compatible-ID match 0x8000 – 0x8FFF : "untrusted" hardware-ID match 0x9000 – 0xBFFF : "untrusted" compatible-ID match 0xC000 - 0xCFFF : "untrusted" undecorated hardware-ID match (possibly a Windows 9x-only driver) 0xD000 - 0xFFFF : "untrusted" undecorated compatible-ID match (possibly a Windows 9x-only driver)</p>
--	--

127. A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a	The authentication information will identify Microsoft, operator of the first apparatus.
---	--

1	<u>user of said first apparatus.</u>
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,185,683

126.		<p>Products Infringing: Microsoft Software that includes the Authenticode feature, .NET Framework SDK, Visual Studio, Microsoft technology that supports a digital signature function (such as ActiveX), Windows Installer technology.</p>
A method of providing trusted intermediary services including the following steps:		<p>Infringement is based on use Microsoft ActiveX control, Cabinet file, Microsoft Windows Installer, Authenticode and Software Restriction Policy technologies. For example, a software publisher distributing a signed application that has licensed ActiveX controls embedded within it would practice this method.</p>
at a first apparatus, receiving an item from a second apparatus;		<p>The item is unsigned software such as an ActiveX control or any software packaged in a cabinet file or Microsoft Installer (.msi) file. Within the development environment, multiple software developers (working on a second apparatus) will send their unsigned software to a secure location (first apparatus) containing the entity's private signing key. An example entity would be a software publisher.</p>
		<p>Source: Deploying ActiveX Controls on the Web with the Internet Component Download</p>
		<p>The holder of the digital certificate</p> <p>Keeping your digital certificate safe is very important. Some firms (including Microsoft) do not keep their signature file on site. The signature is kept with the Certificate Authority and files are sent there for signing.</p>
associating authentication information with said item;		<p>Signed the software associates the software publisher's identify with the software.</p>
		<p>Source: Packaging ActiveX Controls Signing Cabinet Files</p> <p>A .cab file can be digitally signed like an ActiveX control. A digital signature provides accountability for software developers: The signature associates a software vendor's name with a given file. A signature is applied to a .cab file (or control) using the Microsoft Authenticode®</p>

	<p>1 technology.</p> <p>2 The .cab tool set assists software</p> <p>3 developers in applying digital signatures to</p> <p>4 .cab files by allowing a developer to</p> <p>5 allocate space in the .cab file for the</p> <p>6 signature.</p>
4 incorporating said item into a secure digital 5 container;	<p>6</p> <p>7 Signing software either directly or within a</p> <p>8 package (cabinet or .msi file) secures it in a</p> <p>9 digital container.</p> <p>10 Alternately, the signed ActiveX control</p> <p>11 could be placed into a signed cabinet file.</p>
7 associating a first rule with said secure 8 digital container, said first rule at least in 9 part governing at least one aspect of access 10 to or use of said item;	<p>11</p> <p>12 The first rule would be the licensing</p> <p>13 support code within the ActiveX control</p> <p>14 and/or conditional syntax statements when</p> <p>15 the software is within a signed .msi file.</p> <p>16 When the software is within a signed</p> <p>17 cabinet file, the first rule can be a rule</p> <p>18 contained in the software, as is the case</p> <p>19 when an ActiveX control is packaged in a</p> <p>20 signed cabinet file.</p>
	<p>21 First rule, in the case of ActiveX:</p>
	<p>22 When an application with a licensed</p> <p>23 ActiveX control is started, an instance of</p> <p>24 the control usually needs to be created.</p> <p>25 The application accomplishes this by</p> <p>26 making a call to CreateInstanceLic and</p> <p>27 passing the license key embedded in the</p> <p>28 application as a parameter in the call. The</p> <p>ActiveX control performs a string</p> <p>comparison between the embedded license</p> <p>key and its own copy of the license key. If</p> <p>the keys match, an instance of the control is</p> <p>created and the application can execute</p> <p>normally.</p>
	<p>29 Source: Using ActiveX Controls to</p> <p>30 Automate Your Web Pages</p> <p>31 Run-time licensing</p> <p>32 Most ActiveX Controls should support</p> <p>33 design-time licensing and run-time</p> <p>34 licensing. (The exception is the control that</p> <p>35 is distributed free of charge.) Design-time</p> <p>36 licensing ensures that a developer is</p> <p>37 building his or her application or Web page</p> <p>38 with a legally purchased control; run-time</p> <p>39 licensing ensures that a user is running an</p> <p>40 application or displaying a Web page that</p> <p>41 contains a legally purchased control.</p> <p>42 Design-time licensing is verified by control</p> <p>43 containers such as Visual Basic, Microsoft</p> <p>44 Access, or Microsoft Visual InterDev®.</p> <p>45 Before these containers allow a developer</p> <p>46 to place a control on a form or Web page,</p>

	<p>they first verify that the control is licensed by the developer or content creator. These containers verify that a control is licensed by calling certain functions in the control: If the license is verified, the developer can add it.</p> <p>Run-time licensing is also an issue for these containers (which are sometimes bundled as part of the final application); the containers again call functions in the control to validate the license that was embedded at design time.</p>
<p>7 transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;</p>	<p>The third apparatus is a user computer or an application server. The protected processing environment (PPE) is Windows operating system, Internet Explorer (IE) and pertinent operating IE services such as Windows File Protection and security, signature and cryptographic functions related to code signing and related policies. The PPE checks for signatures on software or the software packages and detects situations when the signature does not validate as an indication that tampering may have occurred with the item.</p>
<p>14 said third apparatus receiving said secure digital container and said first rule;</p>	<p>Having the third apparatus receiving said secure digital container and said first rule is typical of networked computing environments.</p>
<p>16 said third apparatus checking said authentication information; and</p>	<p>Examine the signature information includes verifying that signature was created using the private key that corresponds to the public key of the publisher.</p>
<p>18 said third apparatus performing at least one action on said item, said at least one action being governed, at least in part, by said first rule and by a second rule resident at said third apparatus prior to said receipt of said secure digital container and said first rule, said action governance occurring at least in part in said protected processing environment.</p>	<p>The action would be installation and/or use of the distributed software. The second rule can be software restriction policies resident on the machine, which can be invoked at installation and/or runtime.</p> <p><u>.NET Framework Security – pg 259</u></p> <p>and</p>
	<p><u>White Paper – Using Software Restriction Policies in Windows XP and Windows .NET Server to Protect Against Unauthorized Software</u></p> <p>Software Restriction Policies is a policy-driven technology that allows administrators to set code-identity-based rules that determine whether an application is allowed to execute. (.NET Framework Security – pg 259)</p>

	<p>1 For example, administrators can set rules 2 for all Windows Installer packages coming 3 from the Internet or Intranet zone.</p> <p>4 As part of the DLL load mechanisms, 5 Software Restriction Policies is invoked 6 and starts to check its most specific rules. 7 Software Restriction Policies get invoked 8 prior to an .exe being able to run.</p> <p>9 The four types of rules are – hash, 10 certificate, path, and zone.</p> <p>11 Note: The hash and certificate rules relate 12 directing to the signature information 13 whereas, the path and zone rules do not.</p>
--	---

<p>127. A method as in claim 126, in which 13 said authentication information at least in 14 part identifies said first apparatus and/or a 15 user of said first apparatus.</p>	<p>16 The software publisher, user of first device, 17 is identified in the authentication 18 information.</p>
--	--

1
2 INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,185,683

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	126. A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus; associating authentication information with said item; incorporating said item into a secure digital container; associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item; transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus; said third apparatus receiving said secure digital container and said first rule; said third apparatus checking said authentication information; and	Product infringing: Visual Studio .NET, .NET Framework SDK, Authenticode, Products that contain the .NET CLR, Compact CLR or CLI. First apparatus is a software build or deployment services computer that has access to signing key. The item may be a program, graphic, media object or other resource, from a developer computer, or archive (second apparatus). Associating a cryptographic hash with the file that will contain this item for the purpose of ensuring the authenticity of the item, along with names and attributes that are desired to be associated with the item for identification purposes. Producing signed, strongly named assembly that contains this assembly and associated attributes. Including any security demands (such as members of the Microsoft .NET Framework SDK Public Class CodeAccessSecurityAttribute) as part of the assembly. The third apparatus is a user computer or an application server. The third apparatus's protected processing environment is Windows NT and the .NET CLR, CLI and/or compact CLR. Information is protected from tampering because user is not administrator, user runs code on server, a share on another computer, or over a network. Further this information is protected by a number of protection mechanisms that are included with the Windows NT and CLR, CLI and/or compact CLR distributions. Having the third apparatus receiving said secure digital container and said first rule is typical of networked computing environments. The .NET Framework, when the assembly is installed into the global assembly cache (GAC), verifies the strong name of assemblies. This process includes verifying that signature was created using the private key that corresponds to the
--	--	--

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	said third apparatus performing at least one action on said item, said at least one action being governed, at least in part, by said first rule and by a second rule resident at said third apparatus prior to said receipt of said secure digital container and said first rule, said action governance occurring at least in part in said protected processing environment.	public key of the publisher. The action is executing code that is the item or using code that renders the item. Action is governed by security demands on code that calls the item or on code that calls code included in the .NET assembly that manages said item. The second rule is the machine, enterprise, user, and application configuration file resident rules. Typically these configuration files will be populated before the arrival of most new assemblies in a virtual distribution environment. This action governance occurs in the protected processing environment of the CLR, CLI and/or compact CLR.
127.	A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a user of said first apparatus.	The authentication information will identify the .NET Assembly Class company name and trademark attributes that identify the apparatus or user of the first apparatus as being a member of an entity or a branded source (brand name).

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,185,683

4	126.	Product infringing: Visual Studio .NET, .NET Framework SDK, Authenticode, Products that contain the .NET CLR, Compact CLR or CLI.
5	A method of providing trusted intermediary services including the following steps: at a first apparatus, receiving an item from a second apparatus;	The item is an unsigned .NET assembly, which can include, but not be limited to, a Web control, multi-file assembly or component. Within the development environment, multiple assembly builders (working on a second apparatus) will send their unsigned assembly to a secure location (first apparatus) containing the entity's private signing key. An example entity would be a software publisher.
6		<u>.NET Security Framework – pg 130-1</u>
7		Describes this exact practice and further explains the “Delay Signing Assemblies” feature of .NET that accommodates the fact that “many publishers will keep the private key in a secure location, possibly embedded in specially designed cryptographic hardware.”
8		“Delay signing is a technique used by developers whereby the public key is added to the assembly name as before, granting the assembly its unique identity, but no signature is computed. Thus, no private key access is necessary.”
9	associating authentication information with said item;	Strong naming the assembly binds the entity's/publisher's name into the assembly. The public portion of the key used to strongly name the assembly is placed in the assembly manifest. Other assemblies or applications can contain references to the strong names of strongly named assemblies such as in the case of applications that contain references to a set of compliant .NET core libraries. Strong naming compliant .NET core libraries with the European Computers Manufacturers Association's (ECMA) key is a way to allow any publisher to develop compliant .NET core libraries that can be authenticated by other applications.
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

	<p><u>NET Security Framework – pg 124</u> “Strong naming is a process whereby an assembly name can be further qualified by the identity of the publisher.”</p> <p><u>NET Security Framework – pg 133</u> The publisher must advertise its public key or keys in an out-of-band fashion (such as documentation shipped with the product or on the company Web site)</p> <p><u>NET Security Framework – pg 130</u> The goal of the ECMA key is to allow a slightly more generalized strong name binding than usual, namely allowing binding to the publisher of the runtime in use, rather than to a fixed publisher.</p>
incorporating said item into a secure digital container;	<p>Signing the assembly places it in a secure container.</p> <p><u>.NET Framework Security – pg 527</u> Strong named assemblies cannot be modified in any manner without destroying the strong name signature.</p> <p><u>Applied Microsoft .NET Framework Programming – pg 89</u> <i>Strongly Named Assemblies Are Tamper-Resistant</i> When the assembly is installed into the GAC, the system hashes the contents of the file containing the manifest and compares the hash value with the RSA digital signature value embedded within the PE file (after unsigned it with the public key). If the values are identical, the file's contents haven't been tampered with and you know that you have the public key that corresponds to the publisher's private key. In addition, the system hashes the contents of the assembly's other files and compares the hash values with the hash values stored in the manifest file's FileDef table. If any of the hash values don't match, at least one of the assembly's files has been tampered with and the assembly will fail to install into the GAC.</p>
associating a first rule with said secure digital container, said first rule at least in part governing at least one aspect of access to or use of said item;	<p>A .NET assembly includes imperative and declarative statements/rules that will govern its access or use. For example, role-based security or strong name demands in the assembly can be the first rule.</p> <p>MSDN on Role-Based Security</p> <p>Applications that implement role-based security grant rights based on the role</p>

	<p>associated with a principal object. The principal object represents the security context under which code is running. The PrincipalPermission object represents the identity and role that a particular principal class must have to run. To implement the PrincipalPermission class imperatively, create a new instance of the class and initialize it with the name and role that you want users to have to access your code.</p> <p>MSDN on StrongNameIdentityPermission</p> <p>StrongNameIdentityPermission class defines the identity permission for strong names. StrongNameIdentityPermission uses this class to confirm that calling code is in a particular strong-named assembly.</p>
<p>transmitting said secure digital container and said first rule to a third apparatus, said third apparatus including a protected processing environment at least in part protecting information stored in said protected processing environment from tampering by a user of said third apparatus;</p>	<p>The third apparatus is a user computer or an application server. The software publisher transmitting the .NET assembly to an end-user with a CLR. The third apparatus's protected processing environment is Windows NT and the .NET CLR, CLI and/or compact CLR. Information is protected from tampering because user is not administrator, user runs code on server, a share on another computer, or over a network. Further this information is protected by a number of protection mechanisms that are included with the Windows NT and CLR, CLI and/or compact CLR distributions.</p>
<p>said third apparatus receiving said secure digital container and said first rule;</p>	<p>The end-user receiving the signed assembly.</p>
<p>said third apparatus checking said authentication information; and</p>	<p>The .NET Framework, when the assembly is installed into the global assembly cache (GAC), verifies the strong name of assemblies. This process includes verifying that signature was created using the private key that corresponds to the public key of the publisher.</p>

Applied Microsoft .NET Framework Programming – pg 89

Strongly Named Assemblies Are Tamper-Resistant
As above.

.NET Framework Security – pg 128

The verification of any strong name assemblies is performed automatically when needed by the .NET Framework.
Any assembly claiming a strong name but

	<p>failing verification will fail to install into the global assembly or download cache or will fail to load at runtime.</p> <p>Within the CLR (protected processing environment), the execution of the program will depend upon whether the user is of the "role" required of the assembly or whether the calling assembly is from a strong-named assembly specified in the "item" assembly (alternate first rules) and only if assembly complies with the local code access security policy (second rule), as an example of one of the types of rules that .NET Framework allows to be resident on the third apparatus..</p>
	<p>127. A method as in claim 126, in which said authentication information at least in part identifies said first apparatus and/or a user of said first apparatus.</p> <p>The user of the first apparatus is the developer at the assembly developer. Strong naming binds the publisher's name to assembly.</p>

12 LaMacchia, Brian, etc, .NET Framework Security, Addison-Wesley, 2002
 13 Richter, Jeffrey, Applied Microsoft .NET Framework Programming, Microsoft Press, 2002

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,253,193

1	first device information indicating that said transfer has occurred.	Manager
2	3. A method as in claim 2, in which:	
3	(a) said information indicating that said transfer has occurred includes an encumbrance on said budget.	Counter decrement reduces the allowable number of budgeted transfers
4	4. A method as in claim 3, in which:	
5	(a) said encumbrance operates to reduce the number of copies of said digital file authorized by said budget.	Counter decrement reduces the allowable number of budgeted transfers
6		

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,253,193

		Infringing products include Windows Media Player and Windows Media Rights Manager SDK
11.	A method comprising:	
	(a) receiving a digital file;	Consumer receives a Windows Media file (WMRM SDK, Step 3)
	(b) storing said digital file in a first secure memory of a first device;	Windows Media file is stored in consumer's computer and all use of it is securely managed by the Secure Content Manager in Windows Media Player.
	(c) storing information associated with said digital file in a secure database stored on said first device, said information including a first control;	License information is stored in the License Store (WMRM SDK, Step 10), license information includes Rights. License Rights may include AllowTransferToNonSDMI, AllowTransferToSDMI (Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), TransferCount
	(d) determining whether said digital file may be copied and stored on a second device based on said first control,	WMRM determines whether transfer rights are included in license (WMRM SDK, Step 5)
	(1) said determining step including identifying said second device and determining whether said first control allows transfer of said copied file to said second device, said determination based at least in part on the features present at the device to which said copied file is to be transferred;	Portable Device Service Provider Module identifies the portable device as either SDMI-compliant or non-SDMI-compliant (or WM-D-DRM Compliant or other types of supported devices) and provides this information to Windows Media Device Manager, which allows the transfer based on whether the device identification matches the License Right.
	(e) if said first control allows at least a portion of said digital file to be copied and stored on a second device,	If Windows Media Rights Manager determines whether the AllowTransferToNonSDMI or AllowTransferToSDMI rights are present (or Allow Transfer to WM-D-DRM-Compliant devices or other types of devices), the following steps are performed:
	(1) copying at least a portion of said digital file;	Transfer to the SDMI or non-SDMI (Allow Transfer to WM-D-DRM-Compliant or other) portable device, if allowed by Windows Media Rights Manager
	(2) transferring at least a portion of said digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
	(3) storing said digital file in said memory of said second device; and	Music file is stored in the portable device
	(4) rendering said digital file through said output.	Portable device plays the music

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,253,193

1	digital file;	D-DRM Compliant or other) portable device, if allowed by Windows Media Rights Manager
2	(2) transferring at least a portion of said digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
3	(3) storing said digital file in said memory of said second device; and	Music file is stored in the portable device
4	(4) rendering said digital file through said output.	Portable device plays the music
5	16. A method as in claim 15, in which:	
6	said digital file is received in an encrypted form; and further comprising:	
7	decrypting said digital file after said authentication step and before said step of storing said digital file in said memory of said first device.	
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
 2 INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
 3 INTERTRUST INFRINGEMENT CHART
 4 FOR U.S. PATENT NO. 6,253,193

5 CLAIM LANGUAGE	6 CLAIM OF INFRINGEMENT
7 19.	8 Infringing products include Office 2003 and 9 included applications, and Server 2003, 10 including Microsoft hosted RMS Service using 11 Passport
12 A method comprising: 13 receiving a digital file at a first device;	14 Receiving a digital file such as a Word 15 Document, email, Excel spreadsheet, 16 PowerPoint presentation, or other content at a 17 recipient's device. Such content may be 18 received via email, received on removable 19 media, such as floppy disk, downloaded and 20 viewable by Internet Explorer, e.g., a web page 21 possibly containing graphics and/or audio data, 22 etc.
23 establishing communication between said first 24 device and a clearinghouse located at a 25 location remote from said first device;	26 If the digital file is subject to rights 27 management, and the recipient tries to open the 28 digital file in an IRM-enabled application, the 29 IRM-enabled application contacts a remote 30 RMS, i.e., clearinghouse for a use license.
31 said first device obtaining authorization 32 information including a key from said 33 clearinghouse;	34 If the recipient is authorized to access or use 35 the digital file, the RMS creates a license for 36 the digital file. The RMS then seals a key 37 inside the license so that only the recipient 38 can access or use the digital file. Finally, the 39 RMS sends the license back to the recipient.
40 said first device using said authorization 41 information to gain access to or make at least 42 one use of said first digital file, including 43 using said key to decrypt at least a portion of 44 said first digital file; and	45 The recipient's device then uses the key in the 46 license to gain access or decrypt a portion of 47 the digital file.
48 receiving a first control from said 49 clearinghouse at said first device;	50 The license received from the RMS at the 51 recipient's device contains at least one control, 52 such as restricting the ability to print, forward, 53 or edit.
54 storing said first digital file in a memory of 55 said first device;	56 The digital file is stored in the memory of the 57 said recipient's device, such as in RAM, on a 58 hard drive, etc.
59 using said first control to determine whether 60 said first digital file may be copied and stored 61 on a second device;	62 The at least one control in the license limits 63 copying the digital file. 64 Such controls are set when the digital file was 65 authored. For example, when the digital file is 66 authored, the IRM-enabled application 67 presented the author with a list of policy 68 templates with different rights levels. The 69 author selected an appropriate rights level 70 which may for instance, allow other users in the 71 system to open and read the document, but not

	<p>1 to modify it, copy text from it, or forward it. 2 These rights or controls are then associated 3 with the digital file.</p> <p>4 When an attempt is made to access the digital 5 file, the RMS determines the recipient's rights 6 based on the recipient's identity and the 7 policies or controls associated with the digital 8 file.</p>
9 if said first control allows at least a portion of 10 said first digital file to be copied and stored on 11 a second device;	12 If the control in the license allows copying the 13 digital file to a second device, then at least a 14 portion of the digital file is copied, 15 such as by transferring or forwarding the digital 16 file in an email message;
17 transferring at least a portion of said first 18 digital file to a second device including a 19 memory and an audio and/or video output;	20 A portion of the digital file is then transferred 21 to a second device, such as a personal computer 22 or portable device. The second device includes 23 a memory and an audio and/or video output. 24 The memory may be a hard-drive, RAM, CD, 25 DVD, or other storage. The audio and/or video 26 output may be speakers and/or a video monitor.
27 storing said first digital file portion in said 28 memory of said second device; and	29 The digital file is stored in the second device's 30 memory.
31 rendering said first digital file portion through 32 said output.	33 The digital file is rendered through the output, 34 such as played through the speakers and/or 35 displayed on the video monitor. For example, a 36 Word document is displayed on the screen of 37 the video monitor.

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 6,253,193

	Infringing products include Windows Media Player, Windows Media Rights Manager SDK
19. A method comprising:	
(a) receiving a digital file at a first device;	WMRM SDK, Step 3.
(b) establishing communication between said first device and a clearinghouse located at a location remote from said first device;	WMRM SDK, Step 6.
(c) said first device obtaining authorization information including a key from said clearinghouse;	WMRM SDK, Step 9. [License contains the key]
(d) said first device using said authorization information to gain access to or make at least one use of said first digital file, including using said key to decrypt at least a portion of said first digital file; and	WMRM SDK, Step 11.
(e) receiving a first control from said clearinghouse at said first device;	WMRM SDK, Steps 8-9.
(f) storing said first digital file in a memory of said first device;	WMRM SDK, Step 3.
(g) using said first control to determine whether said first digital file may be copied and stored on a second device;	At least the following WMRMRights Object properties meet this limitation: AllowTransferToNonSDMI, AllowTransferToSDMI (or AllowTransfer To WM-D-DRM-Compliant Device or other) and TransferCount
(h) if said first control allows at least a portion of said first digital file to be copied and stored on a second device,	This and all subsequent claim steps occur when the condition specified in the WMRMRights Object property is met
(i) copying at least a portion of said first digital file;	Transfer to the SDMI or non-SDMI (or WM-D-DRM Compliant) portable device, if allowed by Windows Media Rights Manager
(j) transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output;	Portable device necessarily includes at least a memory and audio output
(k) storing said first digital file portion in said memory of said second device; and	Music file is stored in the portable device
(l) rendering said first digital file portion through said output.	Portable device plays the music

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 6,253,193

		Infringing products include Windows Media Player, Windows Media Player, Windows Media Rights Manager SDK
51.	A method comprising:	
52.	(a) receiving a digital file at a first device;	WMRM SDK, Step 3.
53.	(b) establishing communication between said first device and a clearinghouse located at a location remote from said first device;	WMRM SDK, Step 6.
54.	(c) said first device obtaining authorization information from said clearinghouse; and	WMRM SDK, Step 9.
55.	(d) said first device using said authorization information to gain access to or make at least one use of said first digital file;	WMRM SDK, Step 11.
56.	(e) storing said first digital file in a memory of said first device;	WMA file stored on client
57.	(f) using at least a first control to determine whether said first digital file may be copied and stored on a second device, said determination based at least in part on (1) identification information regarding said second device, and (2) the functional attributes of said second device;	If device is based on WM D-DRM, it has a certificate that is used to identify the device as compliant as well as the device's security level. The security level indicates support on the device for such attributes as an internal clock.
58.	(g) if, based at least in part on said identification information, said first control allows at least a portion of said first digital file to be copied and stored on a second device,	If License specifies that transfer of protected WMA file to WM-D-DRM-Compliant device is allowed, transfer may occur.
59.	(h) copying at least a portion of said first digital file;	If transfer is a licensed right as indicated in the license, the song is copied to the device via Windows Media Device Manager.
60.	(i) transferring at least a portion of said first digital file to a second device including a memory and an audio and/or video output;	Windows Media Device Manager transfers the content to the device:
61.	(j) storing said first digital file portion in said memory of said second device; and	WMA file is stored on device
62.	(k) rendering said first digital file portion through said output.	WMA file is rendered.

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,915,019**

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	<p>33. Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.</p> <p>A data processing arrangement comprising at least one storing arrangement that at least temporarily stores a first secure container comprising first protected data and a first set of rules governing use of said first protected data, The first protected data is an ActiveX control. The first alternative for the first secure container is the signed .msi in which the ActiveX developer packaged the ActiveX control. The first set of rules is the conditional syntax statements of the signed .msi file. The second alternative for the first secure container is the signed and licensed ActiveX control. The first set of rules is the license support code in the ActiveX control. A third alternative for the first container is a signed cabinet file containing a (signed or unsigned) ActiveX control with license support code. The first set of rules is the license support code in the ActiveX control.</p> <p>and at least temporarily stores a second secure container comprising second protected data different from said first protected data and a second set of rules governing use of said second protected data; and The second protected data is the application developer's application that includes/uses the ActiveX control. The application developer's signed .msi file (second secure container) contains the application (second protected data). The second set of rules is the signed .msi file's conditional syntax statements that will be governed the offer/installation of the application.</p> <p>a data transfer arrangement, coupled to at least one storing arrangement, for transferring at least a portion of said first protected data and a third set of rules governing use of said portion of said first protected data to said second secure container, Placing the licensed ActiveX control (first protected information) in a signed cabinet file (third secure container) that itself is included in the application's signed .msi file (second secure container). The third set of rules is the license support code in the ActiveX control.</p> <p>further comprising means for creating and storing, in said at least one storing arrangement, a third secure container; The ability of the application developer to package files in signed cabinet files.</p>

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	said data transfer arrangement further comprising means for transferring said portion of said first protected data and said third set of rules to said third secure container, and means for incorporating said third secure container within said second secure container.	The third secure container is a cabinet file signed by the application developer and including at least the licensed ActiveX control (first protected information. The licensing support code in the ActiveX control when its developer added licensing support to the ActiveX control is the third set of rules.
34. A data processing arrangement as in claim 33 further comprising means for applying said third set of rules to govern at least one aspect of use of said portion of said first protected data.	Before an ActiveX control will create a copy of itself, the calling application has to pass a license key to the ActiveX control. The license support code in the ActiveX control (third rule set) evaluates the authenticity of the calling application's request.	
35. A data processing arrangement as in claim 34 further comprising means for applying said second set of rules to govern at least one aspect of use of said portion of said first protected data.	Windows Installer operating system service enforces the conditional syntax statements of the application's signed .msi file. These statements govern the offer/installation of the ActiveX control.	

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,915,019**

41	Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.
A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising (a) a first control set, and (b) a second secure container comprising a second control set and first protected information:	The signed .msi file created by the ActiveX control developer is the first secure container. The conditional syntax statement(s) of the ActiveX control developer's signed .msi file is/are the first control set. The first protected information is the ActiveX control. The first alternative for the second secure container is the signed and licensed ActiveX control. The second control set is the license support code in the ActiveX control. The second alternative for the second secure container is a signed cabinet file containing the (signed or unsigned) ActiveX control. The second control set is the license support code in the ActiveX control.
using at least one control from said first control set or said second control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container;	The ActiveX control developer's conditional syntax statements (first control set) in the ActiveX developer's signed .msi file govern the offer/installation of the ActiveX control while it is in its signed .msi file. Alternately, the license support code (second control set) in the ActiveX control governs use of the licensed ActiveX control.
creating a third secure container comprising a third control set for governing at least one aspect of use of protected information contained within said third secure container;	The third secure container is a signed .msi file. The application developer packages its application in a signed .msi file (third secure container) and includes conditional syntax statements (third control set) in the signed .msi
incorporating a first portion of said first protected information in said third secure container, said first portion made up of some or all of said first protected information; and using at least one control to govern at least	Placing the ActiveX control into the application developer's signed .msi file (third secure container). The application developer's conditional

1 2 3 one aspect of use of said first portion of said first protected information while said first portion is contained within said third secure container.	syntax statement(s) in its signed .msi file govern the offer/installation ActiveX control while it is in the signed .msi file (third secure container).
4 5 6 7 42. A method as in claim 41, in which said first secure container further includes a fourth secure container comprising a fourth control set and second protected information and further comprising the following step:	The second protected information is a second ActiveX control. The first alternative for the fourth secure container is the signed and licensed second ActiveX control. The fourth control set is the license support code in the ActiveX control.
8 9 10 11 12 13 14 using at least one control from said first control set or said fourth control set to govern at least one aspect of use of said second protected information while said second protected information is contained within said first secure container.	The second alternative for the fourth secure container is a signed cabinet file containing the (signed or unsigned) second ActiveX control. The fourth control set is the license support code in the ActiveX control.
15 16 17	The ActiveX control developer's conditional syntax statements (first control set) in the ActiveX developer's signed .msi file govern the offer/installation of the second ActiveX control while it is in its signed .msi file. Alternately, the license support code (second control set) in the ActiveX control governs use of the licensed ActiveX control.
18 19 47. A method as in claim 41, in which said step of creating a third secure container includes:	
20 21 creating said third control set by incorporating at least one control not found in said first control set or said second control set.	The application developer's conditional syntax statements are not found in either the first control set or the second control set.
22 23 52. A method as in claim 41 in which said step of creating a third secure container occurs at a first site, and further comprising:	
24 25 copying or transferring said third secure container from said first site to a second site located remotely from said first site.	The application developer at first site distributes its application to other sites.
26 27 53. A method as in claim 52 in which said first site is associated with a content distributor.	The application developer at the first site is the content distributor.
28 54. A method as in claim 53 in which said second site is associated with a user of	The application developer distributes the application to end-users.

1	content.	
2	55. A method as in claim 54 further comprising the following step: said user directly or indirectly initiating communication with said first site.	For Internet downloads, the user initiates the communication with the first site.
5	64. A method as in claim 54 in which said third control set includes one or more controls at least in part governing the use by said user of at least a portion of said first portion of said first protected information.	The application developer's conditional syntax statements (third control set) govern the installation of the ActiveX control (first protected information).
8	76. A method as in claim 41 in which said creation of said third secure container further comprises using a template which specifies one or more of the controls contained in said third control set.	The third secure container is the application developer's signed .msi file and the third control set is the conditional syntax statements in that file. Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.
16	78. A method as in claim 52 in which said creation of said third secure container further comprises using a template which specifies one or more of the controls contained in said third control set.	The third secure container is the application developer's signed .msi file and the third control set is the conditional syntax statements in that file. Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.
24		
25		
26		
27		
28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

3 4 5 6	81.	Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology.
7 8 9 10	A data processing arrangement comprising: a first secure container comprising first protected information and a first rule set governing use of said first protected information;	The first alternative for the first secure container is the ActiveX control developer's signed .msi file containing a licensed ActiveX control (the first protected information). The conditional syntax statements of the signed .msi file are the first rule set.
11 12 13		The second alternative for the first secure container is the signed cabinet file containing the ActiveX control. The license support code in the ActiveX control is the first rule set.
14 15 16		The third alternative for the first secure container is the licensed and signed ActiveX control governed by license support code in the ActiveX control.
17 18 19	a second secure container comprising a second rule set;	The second secure container is the signed .msi file which the application developer packages its application. The second rule set is the conditional syntax statements of the application developer's signed .msi file.
20 21 22	means for creating and storing a third secure container; and means for copying or transferring at least a portion of said first protected information and a third rule set governing use of said portion of said first protected information to said second secure container, said means for copying or transferring comprising:	Putting the licensed ActiveX control (first protected information) in a signed cabinet file (third secure container). The licensing support code in the ActiveX control is third rule set.
23 24 25	means for incorporating said third secure container within said second secure container.	Packaging the signed cabinet file in the signed .msi file.
26 27 28	82. A data processing arrangement as in claim 81 further comprising: means for applying at least one rule from said third rule set to at least in part govern at least one factor related to use of said portion of said first protected information.	The third rule set ensures the user is licensed.
	83. A data processing arrangement as in claim 82 further comprising:	

1	means for applying at least one rule from 2 said second rule set to at least in part 3 govern at least one factor related to use of said portion of said first protected information.	4 The second rule set governs the offer/installation of first protected information.
---	---	--

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,915,019

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	85. Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology. A method comprising the following steps: creating a first secure container comprising a first rule set and first protected information; storing said first secure container in a first memory; creating a second secure container comprising a second rule set; storing said second secure container in a second memory; copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising: creating a third secure container comprising a third rule set; copying said first portion of said first protected information; transferring said copied first portion of said first protected information to said third secure container; and copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	The first protected information is the ActiveX control. The first alternative for the first secure container is the signed and licensed ActiveX control. The first rule set is the license support code in the ActiveX control. The second alternative for the first secure container is an (signed or unsigned) ActiveX control with license support contained within a signed cabinet file. The first rule set is the ActiveX license support code. The first secure container is stored at the ActiveX control developer's location. The second secure container is the application developer's signed .msi file. The conditional syntax statements of the signed .msi file are the second rule set. The second secure container is stored at the application developer's location. The ActiveX control developer packages the control in a signed .msi file for distribution to the application developer's site. The third secure container is the ActiveX control developer's signed .msi file containing a licensed ActiveX control. The conditional syntax statements of the signed .msi file are the third rule set. In preparation for using a msi authoring tool, such as Microsoft's Orca, copying the ActiveX control to a package staging area. Using msi authoring tool to import the control into the signed .msi file. The application developer installs the ActiveX control, which involves removing it from the ActiveX developer's signed .msi file and installing it into its environment. Subsequently, the
---	--	--

1		application developer places the ActiveX
2		control into its signed .msi file when it is
3		packaging its application.
4	87. A method as in claim 85 in which said	The entire ActiveX control is copied.
5	copied first portion of said first protected	
6	information consists of the entirety of said	
7	first protected information.	
8	89. A method as in claim 85 in which	The first memory is located at the ActiveX
9	said first memory is located at a first site,	control developer's site.
10	said second memory is located at a second	The second memory is located at the
11	site remote from said first site, and	application developer's site.
12	said step of copying or transferring said	The ActiveX control developer's signed
13	first portion of said first protected	.msi file is transferred from its site to the
14	information to said second secure container	site of the application developer.
15	further comprises copying or transferring	
16	said third secure container from said first	
17	site to said second site.	
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,915,019

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	85. (alternate infringing scenario) A method comprising the following steps: creating a first secure container comprising a first rule set and first protected information; storing said first secure container in a first memory; creating a second secure container comprising a second rule set; storing said second secure container in a second memory; copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising: creating a third secure container comprising a third rule set; copying said first portion of said first protected information; transferring said copied first portion of said first protected information to	Infringing products include all Microsoft tools that support the Microsoft ActiveX licensing model, Visual Studio .NET, the Microsoft Installer SDK, and Operating System products that include the Microsoft Installer technology. The first protected information is the ActiveX control. The first alternative for the first secure container is the signed and licensed ActiveX control. The first rule set is the license support code in the ActiveX control. The second alternative for the first secure container is a (signed or unsigned) ActiveX control with license support contained within a signed cabinet file. The first rule set would remain the ActiveX license support code. The third alternative for the first secure container is a signed msi file in which the ActiveX control developer packaged its ActiveX control. The first rule set is the conditional syntax statement(s) of the signed msi file. The first secure container is stored at the ActiveX control developer's location. The second secure container is the application developer's signed .msi file. The conditional syntax statements of the signed .msi file are the second rule set. The second secure container is stored at the application developer's location. The ActiveX control is placed in a cabinet file signed by the application developer and the signed cabinet file is placed in a .msi file signed by the application developer. The third secure container is signed cabinet file in which the application developer placed licensed ActiveX. The third rule set is the license support code in the ActiveX control. Copying ActiveX control. Transferring ActiveX control to signed cabinet file.
---	--	--

1	said third secure container; and	
2	copying or transferring said copied	The application developer places the signed
3	first portion of said first protected	cabinet file into its signed .msi file when it
4	information from said third secure	is packaging its application.
5	87. A method as in claim 85 in which said	The entire ActiveX control is copied.
6	copied first portion of said first protected	
7	information consists of the entirety of said	
8	first protected information.	
9	93. A method as in claim 85 in which	
10	said step of copying transferring said	The ActiveX control is placed in a cabinet
11	copied first portion of said first protected	file signed by the application developer and
12	information from said third secure	the signed cabinet file is placed in a .msi
13	container to said second secure container	file signed by the application developer.
14	further comprises storing said third secure	
15	container in said second secure container.	
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 **INTERTRUST INFRINGEMENT CHART**
4 **FOR U.S. PATENT NO. 5,915,019**

1:	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
7 A method of operating on a first secure container arrangement having a first set of controls associated therewith, said first secure container arrangement at least in part comprising a first protected content file, said method comprising the following steps performed within a virtual distribution environment including at least one electronic appliance:	The first protected content is a signed and licensed .NET component used by the .NET assembly. The .NET assembly is distributed with a signed and governed .msi file. The second protected content is another signed and licensed .NET component that is used by the .NET assembly.
12 using at least one control associated with said first secure container arrangement for governing, at least in part, at least one aspect of use of said first protected content file while said first protected content file is contained in said first secure container arrangement;	The first protected content is signed and licensed .NET component (first secure container) contained within the .NET assembly. The one control is a declarative statement(s) within the assembly's header.
15 creating a second secure container arrangement having a second set of controls associated therewith, said second set of controls governing, at least in part, at least one aspect of use of any protected content file contained within said second secure container arrangement;	The protected content is the same as the first protected content plus the additional implementation information included in the signed .msi file. The second secure container is the signed .msi file created for the .NET assembly. The signed .msi file's conditional syntax statements are the second set of controls that control the offer/installation of the .NET assembly.
20 transferring at least a portion of said first protected content file to said second secure container arrangement, said portion made up of at least some of said first protected content file; and	The entire .NET assembly is included in the signed .msi file.
25 using at least one rule to govern at least one aspect of use of said first protected content file portion while said portion is contained within said second secure container arrangement:	Packaging the .NET assembly in the signed .msi file involves the following process steps. In preparation for using a msi authoring tool, such as Microsoft's Orca, copying the .NET component to a package staging area. Using msi authoring tool to import the .NET component into the signed .msi file.
28 in which said first secure container arrangement comprises a third secure container	The conditional syntax statement(s) of the signed .msi file (second secure container) control(s) the offer/installation of the .NET assembly.
	The first alternative for the third secure container is a licensed and signed .NET

<p>1 arrangement comprising a third set of 2 controls and said first protected content 3 file, and</p>	<p>component governed by the set of declarative statements comprising the LicenseProviderAttribute (third set of controls).</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p>
<p>8 said first secure container arrangement 9 further comprises a fourth secure container arrangement comprising a fourth set of controls and a second protected content file.</p>	<p>10 The first alternative for the fourth secure 11 container is another licensed and signed 12 .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (fourth set of controls).</p> <p>13</p> <p>14 The second alternative for the fourth secure 15 container is the container created when the 16 hash of the .NET component is included in 17 the header information of the .NET 18 assembly. The set of declarative 19 statements comprising the LicenseProviderAttribute is the fourth set of controls.</p>

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	33. Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
A data processing arrangement comprising at least one storing arrangement that at least temporarily stores a first secure container comprising first protected data and a first set of rules governing use of said first protected data,	The first protected information is the .NET component.
	The first alternate for the first secure container is the signed .msi file in which the .NET component developer packaged its .NET component. The first set of rules is the conditional syntax statements of the signed .msi file.
	The second alternative for the first secure container is a licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute of the .NET component (first set of controls).
	The third alternative for the first container is a signed cabinet file containing a (signed or unsigned) .NET component with license support. The first set of controls is the set of declarative statements comprising the LicenseProviderAttribute of the .NET component.
and at least temporarily stores a second secure container comprising second protected data different from said first protected data and a second set of rules governing use of said second protected data; and	The second protected data is the .NET assembly developer's assembly that includes/uses the .NET component.
	The first alternative for the second secure container is a signed .msi file in which the .NET assembly developer packaged its multi-file assembly (second protected data). The second set of rules is the conditional syntax statements of the signed .msi file that governs the offer/installation of the .NET assembly.
	The second alternative for the second secure container is a signed .NET assembly. The second set of rules is the declarative rules within the assembly's header.
a data transfer arrangement, coupled to at least one storing arrangement, for	The third secure container is a signed .NET assembly governed by declarative rules in

<p>1 transferring at least a portion of said first 2 protected data and a third set of rules 3 governing use of said portion of said first 4 protected data to said second secure 5 container,</p>	<p>its header (third set of rules). An 6 alternative third rule set is the set of 7 declarative statements comprising the 8 LicenseProviderAttribute. The .NET 9 assembly includes the .NET component. 10 The secure .NET assembly is included in a 11 signed .msi file (second secure container). 12 13</p> <p>An alternative third secure container is the 14 container created by hashing the .NET 15 component and including the hash in the 16 header information of a .NET assembly. 17 The .NET component is included in the 18 signed and governed .NET assembly 19 (second secure container). The third set of 20 rules is the set of declarative statements 21 comprising the LicenseProviderAttribute.</p> <p>An alternative third secure container is a 22 signed cabinet file containing the .NET 23 component and which is destined for a 24 signed .msi file (second secure container). 25 The third set of rules is the set of 26 declarative statements comprising the 27 LicenseProviderAttribute.</p>
<p>14 <u>further comprising</u></p> <p>15 means for creating and storing, in said at 16 least one storing arrangement, a third 17 secure container;</p>	<p>18 The first alternative for the third secure 19 container is a signed .NET assembly. In 20 this case, the second secure container is the 21 signed .msi file.</p> <p>22 The second alternative for the third 23 container is the container created by 24 including a hash of the .NET component in 25 the header information of a .NET assembly. 26 In this case, the second secure container is 27 either the signed .msi file or the signed 28 .NET assembly.</p> <p>29 The third alternative for the third container 30 is a cabinet file signed by the .NET 31 assembly developer containing the .NET 32 assembly and/or the .NET component. In 33 this case the signed .msi file is the second 34 secure container.</p>
<p>24 said data transfer arrangement further 25 comprising means for transferring said 26 portion of said first protected data and 27 said third set of rules to said third secure 28 container, and means for incorporating 29 said third secure container within said 30 second secure container.</p>	<p>31 The first alternative for the third secure 32 container is the signed .NET assembly, 33 which includes and/or uses the licensed 34 .NET component (first protected 35 information). The third set of rules is a 36 declarative rule within the .NET 37 assembly's header. The .NET assembly is 38 placed in a signed .msi file (second secure 39 container).</p>

	<p>The second alternative for the third secure container is the container that results when the hash of the .NET component is added to the .NET assembly header information. The third set of rules is the set of declarative statements comprising the LicenseProviderAttribute added to the assembly.</p> <p>The third alternative for the third secure container is a cabinet file signed by the .NET assembly developer containing the .NET assembly and/or the .NET component. The third set of rules is a declarative rule(s) within the .NET assembly's header and/or the set of declarative statements comprising the LicenseProviderAttribute added to the assembly</p>
<p>11</p> <p>34. A data processing arrangement as in claim 33 further comprising means for applying said third set of rules to govern at least one aspect of use of said portion of said first protected data.</p> <p>14</p>	<p>When the third rule set is the declarative statement(s) of the assembly header, the runtime CLR enforces the statements.</p> <p>When the third set of rules is the set of declarative statements comprising the LicenseProviderAttribute added to the assembly, the license support code in the .NET component evaluates the authenticity of the calling assembly's request.</p>
<p>17</p> <p>35. A data processing arrangement as in claim 34 further comprising means for applying said second set of rules to govern at least one aspect of use of said portion of said first protected data.</p> <p>21</p>	<p>When the second set of rules is the conditional syntax statements of the signed .msi file, the Windows Installer operating system service enforces the conditional syntax statements of .NET assembly's signed .msi file, which govern the offer/installation of the .NET component.</p> <p>When the second set of rules is the declarative statement(s) within the assembly's header, the runtime CLR enforces the statements.</p>
<p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>Exhibit B</p> <p>125</p>

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 5,915,019

41.	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising (a) a first control set, and (b) a second secure container comprising a second control set and first protected information:	<p>The signed .msi file created by the .NET component developer is the first secure container. The first conditional syntax statement(s) of the .NET component developer's signed .msi file is/are the first control set.</p> <p>The first protected information is the .NET component.</p> <p>The first alternative for the second secure container is the signed and licensed .NET component. The second control set is the set of declarative statements comprising the LicenseProviderAttribute.</p> <p>The second alternative for the second secure container is a signed cabinet file. The second control set remains the set of declarative statements comprising the LicenseProviderAttribute.</p>
using at least one control from said first control set or said second control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container;	<p>The .NET component developer's conditional syntax statements (first control set) in its signed .msi file governs the offer/installation of the .NET component while it is in the signed .msi file.</p> <p>Alternately, the set of declarative statements comprising the LicenseProviderAttribute (second control set) of the licensed .NET component governs use of the .NET component.</p>
creating a third secure container comprising a third control set for governing at least one aspect of use of protected information contained within said third secure container;	<p>The first alternative for the third secure container is a signed .NET assembly, the protected information is the .NET component and the third control set is the declarative statement(s) within the .NET assembly's header.</p> <p>The second alternative for the third secure container is a signed .msi file in which the .NET assembly developer packages its .NET assembly and the third control set is the conditional syntax statement(s) in the signed .msi file.</p>

1 incorporating a first portion of said first 2 protected information in said third secure 3 container, said first portion made up of 4 some or all of said first protected information; and	In the first alternative, placing the .NET component into the signed .NET assembly. In the second alternative, placing the .NET component into the .Net assembly developer's signed msi file.
4 using at least one control to govern at least 5 one aspect of use of said first portion of 6 said first protected information while said first portion is contained within said third secure container.	In the first alternative, the .NET assembly developer's declarative statement(s) within the .NET assembly's header govern(s) the use of the .NET component while it is in the signed .NET assembly.
	In the second alternative, the conditional syntax statements of the .NET assembly developer's signed .msi file govern the offer/installation of the .NET component while it is in the signed .msi file.
10 42. A method as in claim 41, in which said 11 first secure container further includes a 12 fourth secure container comprising a fourth 13 control set and second protected information and further comprising the following step:	The second protected information is a second .NET component. The first alternative for the fourth secure container is the signed and licensed second .NET component. The fourth control set is the set of declarative statements comprising the LicenseProviderAttribute of the second .NET component.
14 15 16 17	The second alternative for the fourth secure container is a second signed cabinet file. The fourth control set is the set of declarative statements comprising the LicenseProviderAttribute.
18 using at least one control from said first 19 control set or said fourth control set to 20 govern at least one aspect of use of said second protected information while said second protected information is contained within said first secure container.	The .NET component developer's conditional syntax statements (first control set) in its signed .msi file governs the offer/installation of the second .NET component while it is in the signed .msi file.
21 22 23 24	Alternately, the set of declarative statements comprising the LicenseProviderAttribute (fourth control set) of the licensed second .NET component governs use of the second .NET component.
25 47. A method as in claim 41, in which said 26 step of creating a third secure container includes:	
27 creating said third control set by 28 incorporating at least one control not found in said first control set or said second control set.	The .NET assembly developer's declarative statements (first alternative for third control set) and/or the developer's conditional syntax statements (second alternative for the third control set) are not found in either

1		the first control set or the second control set.
2		
3	52. A method as in claim 41 in which said step of creating a third secure container occurs at a first site, and further comprising:	
4	copying or transferring said third secure container from said first site to a second site located remotely from said first site.	The .NET assembly developer at first site distributes its assembly to other sites.
5		
6		
7	53. A method as in claim 52 in which said first site is associated with a content distributor.	The .NET assembly developer's business module is used to create and distribute its assembly.
8		
9	54. A method as in claim 53 in which said second site is associated with a user of content.	The .NET assembly developer distributes the assembly to end-users.
10		
11	55. A method as in claim 54 further comprising the following step:	
12	said user directly or indirectly initiating communication with said first site.	For Internet downloads, the user initiates the communication with the first site.
13		
14	64. A method as in claim 54 in which said third control set includes one or more controls at least in part governing the use by said user of at least a portion of said first portion of said first protected information.	When the third control set is the .NET assembly developer's declarative statement(s) within the .NET assembly's header, it governs the user's use of the .NET component (first protected information).
15		
16		
17		
18		
19		
20		
21	76. A method as in claim 41 in which said creation of said third secure container further comprises using a template which specifies one or more of the controls contained in said third control set.	When the third secure container is the .NET assembly developer's signed .msi file and the third control set is the conditional syntax statements in that file.
22		
23		
24		
25		
26		
27		
28		
		Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	78. A method as in claim 52 in which said creation of said third secure container further comprises using a template which specifies one or more of the controls contained in said third control set.	When the third secure container is the .NET assembly developer's signed .msi file and the third control set is the conditional syntax statements in that file. Microsoft supplies several template .msi databases for use in authoring installation packages. The UISample.msi is the template recommended in the "An Installation Example" on MSDN. This template msi files contains several default conditional syntax statements. At least two of these conditional syntax statements directly govern the installation by blocking progress until the EULA is accepted.
---	---	---

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

3 4 5 6	81.	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	A data processing arrangement comprising: a first secure container comprising first protected information and a first rule set governing use of said first protected information;	The first protected information is the .NET component. The first alternative for the first secure container is the signed .msi file in which the .NET component developer packaged its assembly. The first rule set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file.
		The second alternative for the first secure container is the signed cabinet file containing the (signed or unsigned) .NET component. The set of declarative statements comprising the LicenseProviderAttribute when its developer added licensing support to the assembly is the first rule set.
		The third alternative for the first secure container is the licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (first rule set) added by the .NET component developer.
	a second secure container comprising a second rule set;	The first alternative for the second secure container is the signed .msi file in which the .NET assembly developer packaged its .NET assembly. The second rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file.
		The second alternative for the second secure container is the signed .NET assembly. The second rule set is the declarative statements in the .NET assembly's header.
	means for creating and storing a third secure container; and	When the second secure container is the signed msi file, the third secure container is the signed .NET assembly.
		When the second secure container is the

	<p>signed .NET assembly, the third secure container a .NET component secured by placing it in a signed cabinet file or by including its hash in the header of the assembly.</p> <p>means for copying or transferring at least a portion of said first protected information and a third rule set governing use of said portion of said first protected information to said second secure container, said means for copying or transferring comprising:</p>
	<p>When the second secure container is the signed msi file and the third secure container is the signed .NET assembly, the third rule set is the set of declarative statements within the assembly's header.</p> <p>When the second secure container is the signed .NET assembly, the third rule set is the set of declarative statements comprising the LicenseProviderAttribute (third rule set) added to the .NET component by its developer.</p> <p>When the second secure container is the signed msi file and the third secure container is the signed .NET assembly, the assembly is placed in the signed .msi file.</p>
<p>means for incorporating said third secure container within said second secure container.</p> <p>82. A data processing arrangement as in claim 81 further comprising:</p> <p>means for applying at least one rule from said third rule set to at least in part govern at least one factor related to use of said portion of said first protected information.</p>	<p>When the second secure container is the signed .NET assembly and the third secure container is a .NET component contained in a signed cabinet file or a .NET component whose hash is included in the header of the assembly, the third secure container is incorporated within the .NET assembly.</p> <p>When the third rule set is declarative statements within the assembly's header, it governs the use of the .NET assembly which includes the first protected information.</p> <p>When the third rule set is the set of declarative statements comprising the LicenseProviderAttribute added by the .NET component by its developer, it ensures the user is licensed.</p>
<p>83. A data processing arrangement as in claim 82 further comprising:</p> <p>means for applying at least one rule from said second rule set to at least in part govern at least one factor related to use of said portion of said first protected information.</p>	<p>When the second rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file, it governs the offer/installation of the .NET component.</p> <p>When the second rule set is the declarative statements in the .NET assembly's header,</p>

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 **INTERTRUST INFRINGEMENT CHART**
 3 **FOR U.S. PATENT NO. 5,915,019**

4	85. A method comprising the following steps:	Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.
5	6 creating a first secure container comprising a first rule set and first protected information;	7 The first protected information is the .NET component. 8 The first secure container is a signed .NET component (first protected information) governed by the set of declarative statements comprising the LicenseProviderAttribute (first rule set).
9	10	11 The second alternative for the first secure container is a cabinet file signed by the .NET component developer containing a (signed or unsigned) .NET component with license support. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute.
12	13 storing said first secure container in a first memory;	14 The first secure container is stored at the .NET component developer's location.
15	16 creating a second secure container comprising a second rule set;	17 The first alternative for the second secure container is a signed .NET assembly and the second rule set is declarative statement(s) within the assembly's header. 18 The second alternative for the second secure container is the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly. The second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file.
19	20	21
22	23 storing said second secure container in a second memory;	24 The second secure container is stored at the .NET assembly developer's location.
25	26 copying or transferring at least a first portion of said first protected information to said second secure container, said copying or transferring step comprising:	27 The .NET component developer packages its module in a signed .msi file for distribution to the .NET assembly developer's site.
28	29 creating a third secure container comprising a third rule set;	30 The third secure container is the signed .msi file in which the .NET component developer packaged its .NET component. The third control set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file.
	31 copying said first portion of said	32 In preparation for using a msi authoring

1	first protected information;	tool, such as Microsoft's Orca, copying the .NET component to a package staging area.
2	transferring said copied first portion of said first protected information to said third secure container; and	Using the msi authoring tool to import the .NET component into the signed .msi file.
3	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	The .NET assembly developer installs the .NET component, which involves removing it from the .NET component developer's signed .msi file and installing it into its environment. Subsequently, the .NET assembly developer places the .NET component into its .NET assembly and/or signed .msi file when it is packaging its .NET assembly.
4		
5		
6		
7		
8		
9	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
10		
11		
12	89. A method as in claim 85 in which said first memory is located at a first site,	The first memory is located at the .NET component developer's site.
13	said second memory is located at a second site remote from said first site, and	The second memory is located at the .NET assembly developer's site.
14	said step of copying or transferring said first portion of said first protected information to said second secure container further comprises copying or transferring said third secure container from said first site to said second site.	The .NET component developer's signed .msi file is transferred from its site to the site of the .NET assembly developer.
15		
16		
17		
18	94. A method as in claim 85 further comprising:	
19	creating a fourth rule set.	When the second secure container is not a signed .NET assembly, the fourth rule set is declarative statements within the assembly's header.
20		
21		
22		
23		
24		When the second secure container is not the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly, the fourth rule set is the conditional syntax statements written by the .NET assembly developer and placed into the signed .msi file.
25		
26		
27		
28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	85 (alternate infringing scenario) A method comprising the following steps:	<p>Infringing products include the .NET Framework SDK, Microsoft Visual Studio .NET, the Microsoft Installer SDK, and products that include the Microsoft .NET CLR, and the Microsoft Installer technology.</p> <p>creating a first secure container comprising a first rule set and first protected information;</p> <p>The first protected information is the .NET component.</p> <p>The first alternative for the first secure container is the signed and licensed .NET component. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.</p> <p>The second alternative for the first secure container is a (signed or unsigned) .NET component with license support contained within a cabinet file signed by the .NET component developer. The first rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.</p> <p>The third alternative for the first secure container is the signed .msi file in which the .NET component developer packaged its assembly. The first rule set is the conditional syntax statements written by the .NET component developer and placed into the signed .msi file.</p> <p>storing said first secure container in a first memory;</p> <p>The first secure container is stored at the .NET component developer's location.</p> <p>creating a second secure container comprising a second rule set;</p> <p>The first alternative for the second secure container is a signed .NET assembly and the second rule set is declarative statement(s) within the assembly's header.</p> <p>The second alternative for the second secure container is the signed .msi file in which the .NET assembly developer packages its (signed or unsigned) assembly. The second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file.</p> <p>storing said second secure container in a second memory;</p> <p>The second secure container is stored at the .NET assembly developer's location.</p> <p>copying or transferring at least a first</p> <p>The .NET assembly developer places the</p>
---	--	--

1	portion of said first protected information to said second secure container, said copying or transferring step comprising:	.NET component into the third secure container, which is either a signed cabinet file or a signed .NET assembly.
2	creating a third secure container comprising a third rule set;	When the second secure container is the signed .msi file, the third secure container is the signed .NET assembly. The third rule set is the declarative statement(s) in the .NET assembly's header.
3		
4		
5		
6		
7		
8		
9		
10	copying said first portion of said first protected information;	When the second secure container is either a .NET assembly or the signed .msi file, the third secure container is a signed cabinet file in which the .NET assembly developer placed licensed .NET component. The third rule set is the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.
11		
12	transferring said copied first portion of said first protected information to said third secure container; and	Copying the .NET component to either the .NET assembly or to the signed cabinet file.
13		Transferring the .NET component to either the .NET assembly or the signed cabinet file.
14	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	When the second secure container is the signed .msi file and the third secure container is the signed .NET assembly, the .NET assembly is placed into the signed .msi file.
15		
16		
17		
18		
19		When the second secure container is either the .NET assembly or the signed .msi file and the third secure container is the signed cabinet file, the signed cabinet file is placed into either the .NET assembly or the signed .msi file.
20	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
21		
22	93. A method as in claim 85 in which said step of copying transferring said copied first portion of said first protected information from said third secure container to said second secure container further comprises storing said third secure container in said second secure container.	When the third secure container is the signed .NET assembly, it is placed in the signed .msi file.
23		
24		
25		
26		When the third secure container is a signed cabinet file, it can be placed in either the .NET assembly and/or the signed .msi file.
27	94. A method as in claim 85 further comprising:	
28	creating a fourth rule set.	When the second rule set is declarative statement(s) within the assembly's header.

	<p>the fourth rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file.</p> <p>When the second rule set is the conditional syntax statement(s) written by the .NET assembly developer and placed into the signed .msi file, the fourth rule set is declarative statement(s) within the assembly's header or the set of declarative statements comprising the LicenseProviderAttribute in the .NET component.</p>
--	---

95. A method as in claim 94 further comprising:	
10 using said fourth rule set to govern at least one aspect of use of said copied first portion of said first protected information.	<p>If the fourth rule set is the .NET assembly developer's declarative statement(s) within the .NET assembly's header, it governs the use of the .NET component.</p> <p>If the fourth rule set is the conditional syntax statements of the .NET assembly developer's signed .msi file, it governs the offer/installation of the .NET component.</p>

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

1		declarative statement(s) within the assembly's header.
2	copying said first portion of said first protected information;	Copying the .NET component to the .NET assembly.
3	transferring said copied first portion of said first protected information to said third secure container; and	Transferring the .NET component to the .NET assembly.
4		
5	copying or transferring said copied first portion of said first protected information from said third secure container to said second secure container.	When the second secure container is the signed .msi file and the third secure container is the signed .NET assembly, the .NET assembly is placed into the signed .msi file.
6		
7		
8	87. A method as in claim 85 in which said copied first portion of said first protected information consists of the entirety of said first protected information.	The entire .NET component is copied.
9		
10		
11	90. A method as in claim 85 in which said first memory and said second memory are located at the same site.	First and second memory is at the .NET assembly developer's location.
12		
13	93. A method as in claim 85 in which said step of copying transferring said copied first portion of said first protected information from said third secure container to said second secure container further comprises storing said third secure container in said second secure container.	When the third secure container is the signed .NET assembly, it is placed in the signed .msi file.
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.
INTERTRUST INFRINGEMENT CHART
FOR U.S. PATENT NO. 5,915,019

96. A method comprising performing the following steps within a virtual distribution environment comprising one or more electronic appliances and a first secure container, said first secure container comprising a first control set and first protected information:	A signed and licensed .NET component (first container) is part of a .NET assembly (second container), which is packaged in a signed .msi file (third container).
7 using at least one control from said first control set to govern at least one aspect of use of said first protected information while said first protected information is contained within said first secure container;	The first secure container is a licensed and signed .NET component governed by the set of declarative statements comprising the LicenseProviderAttribute (one control).
8 creating a second secure container comprising a second control set for governing at least one aspect of use of protected information contained within said second secure container;	The second secure container is a .NET assembly, the protected information is the assembly and the second control set is declarative statement(s) within the assembly's header.
9 incorporating a first portion of said first protected information in said second secure container, said first portion made up of some or all of said first protected information;	Included in the .NET assembly is the .NET component.
10 using at least one control to govern at least one aspect of use of said first portion of said first protected information while said first portion is contained within said second secure container; and	The declarative statement(s) govern the use of the .NET component and the custom LicenseProvider class (first control set) controls the .NET component.
11 incorporating said second secure container containing said first portion of said first protected information within a third secure container comprising a third control set.	The third secure container is the signed .msi file in which the .NET assembly developer packages its assembly. The third control set is the conditional syntax statements written by the assembly developer and placed into the signed .msi file.

1
2 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
3 INTERTRUST INFRINGEMENT CHART
4 FOR U.S. PATENT NO. 5,949,876

5 2.	6 Infringement is based on Microsoft's Visual Studio .NET and/or the .NET Framework licensing tools (in the .NET Framework SDK) and/or Microsoft Installer SDK..
7 A system for supporting electronic commerce including:	
8 means for creating a first secure control set at a first location;	9 The first location is a .NET component developer's site. The first secure control set is the set of declarative statements comprising the <i>LicenseProviderAttribute</i> of a first .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs. The component is encapsulated in a signed .NET assembly.
10 11 means for creating a second secure control set at a second location;	12 The second location is the .NET application developer's site where a .NET application comprising one or more assemblies is created. 13 14 15 16 17 18 19 20 The second secure control set comprises the declarative statement(s) (including licensing statements, and code access security statements) of a signed .NET assembly using or calling the first .NET component. The control set can include a set of security permissions demanded by the .NET assembly containing the licensed component, whereby the permissions are demanded of components that call the application components. The control set can also be extended by controls expressed as conditional syntax statements in a signed .msi file containing a click through end-user license (the end-user license scenario).
21 22 means for securely communicating said first secure control set from said first location to said second location; and	23 The first .NET control set is securely communicated from the first location developer to the .NET solution provider by either being contained in a signed assembly, within a signed cabinet file or within a signed .msi file.
24 25 26 means at said second location for securely integrating said first and second control sets to produce at least a third control set comprising plural elements together comprising an electronic value chain extended agreement.	27 At the second location, the solution developer uses the .NET runtime that includes the <i>LicenseManager</i> . 28 Whenever a class (control or component) is instantiated (here, an instance of the first .NET licensed component), the license manager accesses the proper validation mechanism for the control or component. A value chain is created through the creation of a run-time license for use of the first .NET component in the context of use of the .NET application developed at the second location. The

	<p>license controls for the runtime license (derived from the design time license) are bound into the header of the .NET application assembly, along with the second control set.</p> <p>The creation of runtime license controls is securely handled by Visual Studio.NET or the LC tool. Runtime licenses are embedded into (and bound to) the executing assembly. The license control attribute included in the first .NET component is customized in the second location to express and require the runtime license. In a different scenario, the LC tool is used to create a ".licenses file" containing licenses for multiple components, including runtime licenses for components and classes created by the license provider. This .licenses file is embedded into the assembly.</p> <p>The third control set is an extended value chain agreement that comprises the runtime license controls for the first .NET licensed class (that had been bound to the assembly), the declarative controls provided by the solution provider in the solution provider's assembly, and any runtime licenses for other components included by the solution provider in the solution provider's assembly, and any end user license agreement provided by the application provider. The controls are typically integrated into the header of the .NET application assembly calling the first .NET licensed component.</p> <p>A further "end user licensing scenario" occurs when, at the second location, the application developer packages the application into a signed .msi file that includes conditional syntax statement controls that require that a user read and agree to an end user license agreement for the application and the embedded first component. The third control set includes a plurality of elements that include the runtime licenses mentioned above, security permissions controls, EULA controls (a fourth control set), all securely bound into the signed .msi file.</p>	
23 24 25 26 27 28	22 23 24 25 26 27 28 11. A system as in claim 2 in which said first location and said second location are contained within a Virtual Distribution Environment. 29. A system as in claim 2 in which said first secure control set includes required	The Microsoft .NET Framework provides a Virtual Distribution Environment. Here the nodes are the Common Language Runtime instances that interpret the controls contained within .NET assemblies (among other functions). The licensing control in the first control set specifies the method required to validate

1	terms.	the license.
2	32. A system as in claim 2 in which said second secure control set includes required terms.	The security permissions demanded (as described above) are required terms for execution of the application code elements.
4	60. A system as in claim 2 in which said means for securely integrating said first and second control sets includes a fourth control set.	In the scenario where the application assembly is distributed using a signed .msi file, the secure integration of the first and second control sets is enhanced by the tamper protection afforded by the signed .msi file. In the end user license scenario, a fourth control set consisting of conditional syntax statements is included in the .msi file.
9	130. A system as in claim 2 further including means for executing said third control set within a protected processing environment.	The third control set is executed under the auspices of the CLR.
12	132. A system as in claim 130 in which said protected processing environment is located at a location other than said second location.	The third control set is executed at an end-user site within the CLR.
14	161. A system as in claim 2 in which said third control set includes controls containing human-language terms corresponding to at least certain of the machine-executable controls contained in said third control set.	In the end user license scenario, the third control set includes a fourth control set that requires that the human user agree with license terms displayed to the user. These human readable terms are referenced in the conditional syntax statement controls contained in the signed .msi file.
18	162. A method as in claim 161 in which said human-language terms are contained in one or more data descriptor data structures.	The .msi file is a data descriptor data structure.
20	170. A system as in claim 2 in which said means for creating a first secure control set includes a protected processing environment.	The creation of the first licensed component, including its licensed controls is carried out under the auspices of the CLR.
23	171. A system as in claim 2 in which said means for creating a second secure control set includes a protected processing environment.	The application design time environment and the creation of the .NET application is carried out under the auspices of the CLR.
26	172. A system as in claim 2 in which said means at said second location for securely integrating includes a protected processing environment.	The means for integrating the runtime license with the application controls is carried out under the auspices of the CLR.
28	329. A system as in claim 2 in which said	VS.NET runs under Windows.

1	means for creating a first secure control set includes an operating system based on or compatible with Microsoft Windows.	
3	330. A system as in claim 2 in which said means for creating a second secure control set includes an operating system based on or compatible with Microsoft Windows.	VS.NET runs under Windows.
6	331. A system as in claim 2 in which said means at said second location for securely integrating said first and second control sets includes an operating system based on or compatible with Microsoft Windows.	VS.NET runs under Windows.
9	346. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one load module.	The third control set in the scenario described in the claim map for claim 2 governs a portable .NET executable designed to be loaded into the CLR environment (a CLR host).
12	347. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one method.	The third control set in the scenario described in the claim map for claim 2 governs a .NET executable. This executable contains one or more methods.
15	349. A system as in claim 2 further comprising means by which said third control set governs the execution of at least one procedure.	The third control set in the scenario described in the claim map for claim 2 governs a .NET executable. This executable contains one or more procedures.
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,112,181

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT
6 48.	7 Infringing products include Microsoft SMS 8 (Systems Management Server) 2.0 and 9 subsequent versions.
10 A method for narrowcasting selected 11 digital information to specified 12 recipients, including: 13 a) at a receiving appliance, receiving 14 selected digital information from a 15 sending appliance remote from the 16 receiving appliance,	17 The <i>receiving appliance</i> is the client (e.g., end 18 user computer in an Enterprise setting) 19 receiving <i>digital information</i> (packages and/or 20 advertisement files) from the <i>sending 21 appliance</i> , the centralized SMS database via a 22 Client Access Point and/or Distribution Point 23 set up on a server.
24 the receiving appliance having a 25 secure node and being associated 26 with a specified recipient;	27 The “node” is “secure” as a result of SMS 28 security, as well as how it identifies and selects 29 clients. 30 The “specified recipient” is the result of the 31 <i>collection</i> identifying a specific client that 32 meets the criteria for a package or 33 advertisement.
34 i) the digital information having 35 been selected at least in part based on 36 the digital information’s membership in 37 a first class, wherein the first class 38 membership was determined at least in 39 part using rights management 40 information; and	41 The <i>digital information</i> is a software package 42 or advertisement. The “ <i>first class membership 43 was determined in part using rights 44 management information</i> ” reads on creating 45 software packages (or advertisements) based 46 on attributes of the software.
47 ii) the specified recipient having 48 been selected at least in part based on 49 membership in a second class, wherein 50 the second class membership was 51 determined at least in part on the basis 52 of information derived from the 53 specified recipient’s creation, use of, or 54 interaction with rights management 55 information; and	56 The “specified recipient” is the client selected 57 to receive a package or advertisement. That 58 recipient is chosen based on a collection rule, 59 or on the recipient’s possession of a license.
60 b) the specified recipient using the 61 receiving appliance to access the 62 received selected digital information in 63 accordance with rules and controls, 64 associated with the selected digital 65 information,	66 The <i>receiving appliance</i> is the client computer. 67 The SMS agents on the client computer 68 receive, evaluate and take the appropriate 69 action based on <i>rules and controls</i> governing 70 the package and/or advertisement (i.e. the 71 <i>selected digital information</i>).
72 the rules and controls being enforced	73 Rules and controls are enforced by Agents on

1	by the receiving appliance secure node.	the client (the <i>secure node</i>)
2		
3	59. The method of claim 48 wherein 4 said received selected digital information is at least in part event information.	Event information includes SMS event information, including <i>Scheduling Classes</i> .
6	63. The method of claim 48 wherein said received selected digital information is at least in part executable software.	All SMS packages must include a minimum of one program.
7	70. The method of claim 48 wherein 8 said rules and controls at least in part govern usage audit record creation.	A control governs whether a MIF (management information file) is sent back to the SMS db after installation is done to report on the success or failure of the installation.
10	89. The method of claim 48 wherein 11 said receiving appliance is a personal computer.	The primary purpose of SMS is to manage software on personal computers throughout the Enterprise.

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,112,181

CLAIM LANGUAGE	CLAIM OF INFRINGEMENT
48.	Infringing products include Windows Media Player and Windows Media Rights Manager
A method for narrowcasting selected digital information to specified recipients, including:	This claim pertains to Windows Media Player with Individualized DRM Client and Windows Media Rights Manager used in the context of a narrowcast pay-per-view (hear) media distribution service., simulcast and/or subscription services.
(a) at a receiving appliance, receiving selected digital information from a sending appliance remote from the receiving appliance, the receiving appliance having a secure node and being associated with a specified recipient	Receiving appliance is a user's PC with individualized DRM client (secure node). Specified recipient is a user using the specific individualized DRM client to access and render narrowcast pay-per-view media, simulcast and/or subscription services for which the user acquires a license.
(i) the digital information having been selected at least in part based on the digital information's membership in a first class, wherein the first class membership was determined at least in part using rights management information; and	The digital information is media that is narrowcast to licensed recipients. These narrowcast streams are licensed to users who have acquired licenses and whose PCs (appliances) support WMPs that have individualized DRM clients. This attribute is included in the signed WMA file header and is used in the process of acquiring licenses for access to the media. Media that are licensed to the recipient have their licenses bound to the recipient's Individualization module.
(ii) the specified recipient having been selected at least in part based on membership in a second class, wherein the second class membership was determined at least in part on the basis of information derived from the specified recipient's creation, use of, or interaction with rights management information; and	The recipient is selected for this content based on the fact that the recipient is a member of the class of recipients who have a license for the narrowcast media and whose devices support WMP and individualized DRM clients. The recipient's machine must indicate support for individualization in challenges that are sent as part of requests for media in this narrowcast class.
(b) the specified recipient using the receiving appliance to access the received selected digital information in accordance with rules and controls, associated with the selected digital information, the rules and controls being enforced by the receiving appliance secure node.	Recipient's machine uses WMP and the individualized DRM client to access the narrowcast media in accordance with all rules associated with the media and contained in the media license – in particular, requirements that individualization be supported.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CLAIM LANGUAGE															CLAIM OF INFRINGEMENT
61. The method of claim 48 wherein said received selected digital information is at least in part entertainment information.															The digital information is Windows Media, which encodes audio/visual entertainment content.
62. The method of claim 61 wherein said entertainment information is at least in part music information.															Reads on narrowcast Windows Media Files that are music or audio/visual.
67. The method of claim 48 wherein said rules and controls at least in part use digital certificate information.															The license contains a digital certificate. The DRM client uses the certificate in the license to verify this signature and to verify that the header has not been tampered with.
72. The method of claim 48 wherein said rules and controls in part specifying at least one clearinghouse acceptable to rightsholders.															The signed header contains at least one URL that indicates to the Windows Media Rights Manager the license clearinghouse to be used in acquiring licenses.
75. The method of claim 72 wherein said at least one acceptable clearinghouse is a rights and permissions clearinghouse.															This clearinghouse is a license clearinghouse responsible for mapping rights and permissions onto requested content or narrowcasts and binding them to the requesting client environment or user of this environment.
89. The method of claim 48 wherein said receiving appliance is a personal computer.															Windows Media Player and the Individualized DRM client run on a personal computer.

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,112,181

4	91	Infringing products include Windows Media Player and Windows Media Rights Manager
5	A method for securely narrowcasting selected digital information to specified recipients including:	This claim pertains to Windows Media Player with Individualized.DRM Client and Windows Media Rights Manager used in the context of a narrowcast simulcast, pay-per-view (hear) media distribution service, and/or subscription services. The content is delivered in a Protected Windows Media File.
6	(a) receiving selected digital information in a secure container at a receiving appliance remote from a sending appliance, the receiving appliance having a secure node, the receiving appliance being associated with a receiving entity	Narrowcast content is received in a Protected Windows Media File. Receiving appliance is user's PC with individualized DRM client (secure node).
7	(i) the digital information having been selected at least in part based on the digital information's membership in a first class,	The digital information is media that is narrowcast to licensed recipients (for example, a sold-out concert is narrowcast on the Internet to "the class of" licensed (or ticketed) viewers).
8	(ii) the first class membership having been determined at least in part using rights management information	These narrowcast streams are licensed to users who have acquired licenses and whose PCs (appliances) support WMPs that have individualized DRM clients. This attribute is included in the signed WMA file header and is used in the process of acquiring licenses for access to the media. Media that are licensed to the recipient have their licenses bound to the recipient's individualization module.
9	(b) the receiving entity having been selected at least in part based on said receiving entity's membership in a second class,	The recipient is selected for this content based on the fact that the recipient is a member of the class of recipients who has a license for the narrowcast media.
10	(i) the second class membership having been determined at least in part on the basis of information derived from the recipient entity's creation, use of, or interaction with rights management information	The recipient class is determined by the license bound to the user's device that supports WMP and individualized DRM clients. The recipient's machine must indicate support for individualization in challenges that are sent as part of requests for media in this narrowcast class.
11	(c) receiving at the receiving appliance rules and controls in a secure container,	Receives a protected Windows Media File
12	(i) the rules and controls having been associated with the selected digital information; and	Receives a license that is bound to the file as well as to the specific DRM client individualization information.
13	(d) using at the receiving appliance the selected digital information in accordance	Recipient's machine uses WMP and the individualized DRM client to access the

1	with the rules and controls,	narrowcast media in accordance with all rules associated with the media and contained in the media license – in particular, requirements that individualization be supported.
2		
3		
4	(i) the rules and controls being enforced by the receiving appliance secure node.	The WMP and DRM client enforce the rules embedded in the Protected Windows Media File License.
5		
6	104. The method of claim 91 wherein said received selected digital information includes entertainment information.	The digital information is Windows Media, which encodes audio/visual entertainment content.
7		
8	109. The method of claim 91 wherein said rules and controls at least in part use digital certificate information.	The license contains a digital certificate. The DRM client uses the certificate in the license to verify this signature and to verify that the header has not been tampered with.
9		
10		
11	114. The method of claim 91 wherein said rules and controls specify at least one clearinghouse acceptable to rightsholders.	The signed header contains at least one URL that indicates to the Windows Media Rights Manager the license clearinghouse to be used in acquiring licenses.
12		
13	117. The method of claim 114 wherein said at least one acceptable clearinghouse is a rights and permissions clearinghouse.	This clearinghouse is a license clearinghouse responsible for mapping rights and permissions onto requested content or narrowcasts and binding them to the requesting client environment or user of this environment.
14		
15		
16		
17	131. The method of claim 91 wherein said receiving appliance is a personal computer.	Windows Media Player and the individualized DRM client run on a personal computer.
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

1 **INTERTRUST TECHNOLOGIES CORP. v. MICROSOFT CORP.**
 2 INTERTRUST INFRINGEMENT CHART
 3 FOR U.S. PATENT NO. 6,389,402

4 CLAIM LANGUAGE	5 CLAIM OF INFRINGEMENT	
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 Products infringing: Microsoft Visual Studio .NET, .NET License Compiler, .NET Framework SDK, and .NET Common Language Runtime 1. A method including creating a first secure container including a first governed item and having associated a first control; creating a second secure container including a second governed item and having associated a second control; transferring the first secure container from a first location to a second location; transferring the second secure container from a third location to the second location;	1 Products infringing: Microsoft Visual Studio .NET, .NET License Compiler, .NET Framework SDK, and .NET Common Language Runtime A method for producing a third .NET component (application) that incorporates first and second .NET component whose distribution is license controlled. The <i>first secure container</i> is a first signed .NET component that includes a license control. The <i>governed item</i> is the .NET component. The <i>first control</i> is the set of declarative statements comprising the LicenseProviderAttribute of a first .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs. The <i>second secure container</i> is the second signed .NET component that includes a license control. The <i>governed item</i> is the .NET component. The <i>second control</i> is the set of declarative statements comprising the LicenseProviderAttribute of a second .NET licensed component that provides for a design-time license to use the control. This attribute also specifies the type of license validation that occurs. The creator distributes a signed and licensed .NET component. An application developer at a second location downloads a first .NET component for inclusion into an application. A creator distributes a signed and licensed .NET component from a different location. Application developer downloads a second .NET component for inclusion into an application.

<p>1</p> <p>2 at the second location, obtaining access to at</p> <p>3 least a portion of the first governed item, the</p> <p>4 access being governed at least in part by the</p> <p>5 first control;</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p>	<p>10 At the <i>second location</i>, the application developer uses the .NET runtime that includes the LicenseManager to access a <i>first governed item</i>.</p> <p>11 Whenever a class (control or component) is instantiated (here, an instance of the first .NET licensed component), the license manager accesses the proper validation mechanism for the control or component.</p> <p>12 The <i>first control</i> comprises the declarative statement(s) (including licensing statements, and code access security statements) of the first .NET component.</p>
<p>10 at the second location, obtaining access to at</p> <p>11 least a portion of the second governed item, the</p> <p>12 access being governed at least in part by the</p> <p>13 second control;</p> <p>14</p> <p>15</p> <p>16</p>	<p>17 At the <i>second location</i>, the application developer uses the .NET runtime that includes the LicenseManager to access a <i>second governed item</i>.</p> <p>18 Whenever a class (control or component) is instantiated (here, an instance of the second .NET licensed component), the license manager accesses the proper validation mechanism for the control or component.</p> <p>19 The <i>second control</i> comprises the declarative statement(s) (including licensing statements, and code access security statements) of the second .NET component.</p>
<p>17 at the second location, creating a third secure container including at least a portion of the first governed item and at least a portion of the second governed item and having associated at least one control, the creation being governed at least in part by the first control and the second control.</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p>	<p>20 At the <i>second location</i>, the application developer uses the .NET runtime that includes the LicenseManager to access a <i>first governed item</i> and <i>second governed item</i> to construct an application, the <i>third secure container</i>.</p> <p>21 <i>Creation governance</i> is accomplished by invoking the .NET runtime to access the <i>first governed item</i> and the <i>second governed item</i>.</p> <p>22 Whenever a class (control or component) is instantiated the license manager accesses the proper validation mechanism for the control or component.</p> <p>23 The <i>portions</i> of the <i>first governed item</i> and <i>second governed item</i> that are being included in the <i>third secure container</i> will typically include the governed items themselves, ie. the .NET components.</p> <p>24 The <i>associated control</i> in this case is the LicenseProviderAttribute, created and inserted into the application.</p>